BUILT FORM AND CULTURE
A Case Study of Gilbertese Architecture

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ABSTRACT

The last two decades of architectural studies have been marked by a renewal of interest in human behaviour and how it is related to the environments we inhabit. This interest has stemmed from the recognition that much contemporary architecture, in its pursuit of economic technological efficiency, pays little or no attention to its human context. As part of the attempt to re-establish this context, designers and scholars alike have seen the need to increase our understanding of the nature of the relationship between man and his spatial environment.

The aim of this thesis is to examine the aspect of this relationship which emerges from the premise that the formal 'rules' of culture are one of the means used by man in the process of interpreting his spatial environment. Based on a field study in the Gilbert Islands in the western Pacific, this research outlines the specific nature of the cultural rules used by the Gilbertese in this process, and examines how the process has changed over time.

The thesis is divided into four sections. The Introduction outlines the argument for this type of study in more detail, and explains the theoretical framework developed to relate man, culture, and built form. Also included are the research methodologies used, and a brief physical description of the study area.

In the second section, Part One, four distinct units of traditional Gilbertese settlement pattern are identified - the home, the clan hamlet, the meeting house, and the island as a whole. Each is analysed as a physical environment, the arrangement and use of which were developed by the Gilbertese in accordance with certain relevant cultural practices. Taken as a whole, Part One gives an overall outline of the important traditional relationships between built form and culture.

In the third section, Part Two, the impact of Western occupation and influence upon the traditional pattern of relationships is examined. Through an analysis of the manner in which the Gilbertese manipulated those relationships in response to such influences, it became possible to draw conclusions as to the workings of Gilbertese built form and culture, one against the other.

The eventual understanding of the built form/culture relationship, arrived at through the analyses conducted in Parts One and Two, is outlined in the final section, Concluding Remarks. The argument is again supported by notable examples cited earlier in the main text. The specific conclusions so drawn are then synthesised into a more general conclusion of interest to scholars and practitioners of architecture alike.

The thesis begins with the premise that culture would be a determining factor of much of the meaning which people read into their spatial environment. But, as evidence is collected and conclusions drawn, it is shown that such a view (suggesting that culture is used by people as a means of comprehending their architectural environment) cannot be sustained, and that the Gilbertese in fact use their architecture to explore and explain cultural ideas. So it is deduced that it is preferable to treat architecture as a means to a cultural end, thus avoiding the temptation, inherent in the initial premise, to attribute a falsely deterministic role to culture. Most importantly, it allows architecture to be seen as an active element in the cultural process rather than as a passive receptacle of cultural meaning.

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INTRODUCTION

1.1 INTRODUCTION

The introductory chapter serves three purposes. It outlines the context of the research, it details research objectives and methodologies, and it presents a brief introduction to the Gilbert Islands where the study was conducted.

1.2 RESEARCH CONTEXT

1.2.1 A Problem in Architecture

There is a failure of much contemporary architecture to create either micro or macro environments which are deemed satisfactory by the average individual. The reasons for this failure and the paths of research which could lead out of it are, however, not clear.

It would seem logical that the reasons for the failure of any enterprise should be sought in two distinct areas. One of these is the competence of the practitioners engaging in that enterprise, such competence including both the processes employed by the practitioners, and their skill in employing those processes. When confronted with the situation where, along with a series of failed enterprises, one can find a number of successful exercises within the same field, one may quite reasonably come to the conclusion that it must indeed be in the competence of the practitioners that the problem lies. Quite simply, some are competent while others are not, or, less vindictively, some have been successful while others not so.

Alternatively, the failure of an enterprise may be traced back to the theories on which that enterprise was based, those theories being found to be inappropriate in some manner or other.

The aim of the design methodologists (who came into vogue during the early sixties) must be seen primarily as an attempt to improve the competence of architectural practitioners, rather than as an attempt to improve the theories on which their work was based. Indeed their programme was, as a first stage in the reorganisation of the design method, to remove from the designer's cognition (and in many cases desirably so) all those preconceptions, prejudices, and notions of style (i.e. theories) upon which the intuitive designer had previously based his solutions.

Fifteen years later, however, the legacy of the design methodology programme is not impressive. Though it left in its wake some useful design tools, and removed some notions of design that can well be done without, it has not, despite its widespread application, improved the quality of the built environment in the manner it promised.

If a methodological revision did not entirely succeed, it may well be beneficial to take a closer look at architectural theory, in particular that theory which has some bearing on those aspects of the architectural environment which are problematic.

Buildings do not commonly topple over or collapse. Where they do, reasons for this failure can generally be found. The environments within and around buildings are generally climatically satisfactory, and again, where they are not, adequate reason can be given to explain the failure. Where the building structure and enclosure are concerned, structural, thermal, acoustic, and luminar theory measures up as good theory. From it, performance can be predicted and design decisions reliably tested. Building failure in these areas stems quite simply from either a failure to apply the theory, or from an incorrect application of the theory. It does not stem from a fault in the theory itself.

What then are the problematic aspects of the architectural environment? Particular instances furnish many clues - inner city spaces are described as empty, ugly, and inhuman, the suburbs as boring and sprawling, and lacking any feeling of community. Generalised, these comments can be taken as describing some kind of mis-match between what people expect from their architectural environment and what they actually get.

1.2.2 A Stimulating Response to the Problem

To study this mis-match, it has been common to set up the problem in terms of the relationship between man and his physical environment, and to ask the question - What is the effect of environment on people? Though the history of the debate over the relationship between organism and environment is an extended one, it is enough here to begin at the point where architectural theorists began to take an interest in it. Early attempts to establish the physical environment as determinative of human behaviour failed to produce results of any consequence, so that some researchers concluded that the physical environment had little or no effect whatsoever on behaviour. Subsequently a package theory was propounded whereby it was held that human behaviour was determined from inputs from a multi-dimensional environment composed not only of the physical but also of the socio-cultural and psychological environments.[1]

Nevertheless, the architectural environment remains as one component of the total physical environment and it is in this capacity that it is regarded as being an influence on human behaviour, a physical stimulus provoking a human response. In the words of Lee,

> "The aim is to design and build a structure of knowledge, piece by piece, that will enable us ultimately to predict what forms of perception or behaviour will follow from different environmental stimuli."[2]

And it remains that this theoretical perspective has failed to produce substantial research results which are useful in helping to correct the mis-match between user and environment.

1.2.3 Alternative Formulation

In fact, even commonsense suggests that the freedom of man denies the possibility of one-to-one correlates between the physical environment and his behaviour, except in elementary and trivial terms. It will not suffice to alter this theory to one of an 'in most cases' type, as any specific relationship can never be surely predicted. Exceptions must always exist as paradoxes within a universal 'law' of natural human behaviour.

An alternative description of the man-environment relationship has been proposed by Hillier and Leaman.[3] Man's behaviour in relationship to environment is seen as an act of discovery, rather than as a response. The act of discovery, and hence comprehension, of a particular environment is the act of 'seeing' that environment via a type of mental model.

The notion of a mental model of this type can be easily appreciated by thinking of a stage set. Consider the requirements for the design of a domestic setting, for example, a sitting room. Even the most conventional stage set would still differ markedly from a sitting room in reality. A more abstract set would physically bear little similarity to a real room. In the extreme, the set may consist totally of the words and actions of the actors themselves. Physically the set may be non-existent. Yet even the most abstract set would create a pattern of clues sufficient for the audience to perceive of the action as taking place in a sitting room. Each person in the audience obviously has a mental model of a sitting room, and in terms of this he

adjudges what he sees before him to be a sitting room or not. This model is not a replica of a sitting room, or a vision of some kind of 'ideal' sitting room. It is an abstract pattern of requirements which spaces must meet to be recognised as sitting rooms.

In the real world, man is not audience; he is actor and audience both. Not only does he perceive environments, he behaves within them. Man's mental models of environments are models of perception; they are also models of behaviour.

The Hillier/Leaman concept thus avoids the split between human behaviour and environment by uniting them within their mental model.

The freedom contained in such a concept of the man-environment relationship can treat the probability of the conjunction of a particular spatial environment with a certain type of behaviour, either action or idea, as a different type of probability based upon the resolution of the juxtaposition of individual aims and the availability and adequacy of mental models relevant to that environment.

Such a formulation readily assimilates individual interpretation of, and even deviation from, those models as part and parcel of its process. For example, deviation can now be seen not as negative evidence destroying notions of one-to-one relationships between man and environment, but as positive criticism or creative activity leading to a challenge and possible reformulation of the artificially created mental model. What then are these mental models, and how are they related to the concept of culture?

Initially it can be said that, like the structures

of language, they have an objective existence outside the minds of particular individuals, but do have relevance to the process whereby the spatial environment is interpreted, and acted upon and within by the individual. They have the status therefore of a particular branch of the broader category of objective knowledge which may be labelled culture. They are distinguished from the broad category by virtue of their particular relevance to the spatial environment.

Accordingly, taking the argument further, it would be advantageous to outline in more detail the concept of culture around which these propositions are formulated.

1.3 THEORETICAL FRAMEWORK

1.3.1 The Concept of Culture

Culture as a word meaning other than 'to cultivate' has only been in the English language since 1871 when used by Tylor in the anthropological sense.[4] Though there was some degree of distinction made, its usage roughly paralleled the usage of the older word 'civilization'.

Over the last century, the concept of culture has come under scrutiny from writers in most of the human sciences from sociology through to psychology and physiology. In general, the emphasis given to the concept has been determined by the emphasis of the particular discipline.

Where definitions have been given, they have therefore tended to be partial definitions of the nature of culture, not mutually exclusive but rather, inclusive. Certainly as noted by Kroeber and Kluckhohn:

> "It is evident that anthropologists have been reluctant to classify culture into its topical parts. They have sensed that the categories are not logically definite but are subjectively fluid, and serve no end beyond that of convenience, and thus would shift according to interest and context."[5]

Given this state of affairs, and building mainly on the review by Kroeber and Kluckhohn, and in addition, more recent work on culture theory, notably that of Williams,[6] a concept of culture will be argued for which puts it in the context of this thesis, that being: architects and their interest in built form as a cultural artifact.

1.3.2 Culture and Instinct

Culture, for all animal species, contrasts itself with instinct, and in doing so indicates one of the most important aspects of the concept. Both culture and instinct can be seen as sources of knowledge, as bases for thought and/or action. There exists a gradual shift in emphasis from the lower animals through to man, instinct being the important knowledge source for the lower animals, culture for human beings.

The important distinction is that instinctive knowledge is individually acquired, genetically encoded in the creature at birth. Cultural knowledge, on the other hand, must be acquired, must be learnt, and, from another perspective, must be shared.

Our great genetic inheritance as human beings is the ability to learn, to acquire language with its communicative and argumentative possibilities, to symbolise. But given this facility, the fact remains that the bulk of knowledge essential for living, for constructing and entering into relationships with the environment, must be learnt.

A further point must be added. The evolution of the human brain, in simple terms its capacity to objectify and generalise, to symbolise, not only affords it access to these rules and meanings, but also allows it to alter and extend them, and, by so doing, to create new or modified realities.

As these models are the means used by individuals to relate to their environment, so changes in the environment may induce individual re-assessment of the rules for relating to it. Similarly, individual creativity may reasess the effectiveness of existing models for dealing with the existing environment, and new or modified models be devised. Such new models may be shared with others, accepted by them, and this becomes the way to cultural change.

Culture then may be seen as knowledge which must be learnt, and the process of culture, the duality of transmission and modification, as communication.

1.3.3 The Process of Culture: Communication and Institution

The acquisition of knowledge pertinent to action by individuals in their environment is by no means restricted to human beings.

Animal species not only acquire this knowledge by individual experimentation on their environment, that is by a process of trial and error, they also acquire knowledge from the other individuals in their group.

For example, while it is believed that lower animals such as ants or bees may construct their habitations to a large degree instinctively, certain birds, removed from the group, are not able to build a nest. The

knowledge and skill required to construct the nest is not genetically acquired, but must be learnt by each bird in the group - the knowledge is shared between them.

For this to occur, a communications system of some kind must be in existence. Such knowledge is not randomly acquired. A communication system is a process of organisation, a fact noted by J.Z. Young:

> "There appear to be two general laws of the universe: first that of association, of binding, the tendency of randomly distributed processes to become linked to form larger units; second is the law that such unity is not permanent but sooner or later dissolves, providing fresh randomness.....There is a rhythmic building by alternation of organisation, and disorder, a continuous process of 'creation'."[7]

In man, the process of organisation and disorder, which leads to learning and relearning, has led to a number of communication systems of great power and complexity, and it is this which marks him off from the rest of the animal world; that and the objectivity of these systems, their ability to survive the biological deaths of their bearers, whilst remaining intact themselves to be built on further in a continuing process of organisation and re-organisation.

These communication systems build up organisations of shared knowledge. If the communication is successful, that is to say, a message is encoded according to the mode of communication being used, and is interpreted by other individuals using the same code, then a body of meaning is built up which is shared by all those individuals.

In addition, it may be that new means of communication, new codes, may have to be created for a particular message to be put across. For example, meaning in art or science may no longer be transmittable using existing modes of communication, and a whole new mode of communication must be proposed. Thus the values and meanings extracted from a contemporary abstract landscape canot be expressed via a classical mode of communication. Likewise, the experience of an Einsteinian universe cannot be expressed in terms of Newtonian physics.

Whatever the process, be it one of successful use of existing means of communication, or the creating of new ones, the discovery of effective means of communication is the discovery of common meanings. Such common meanings, communally agreed upon as being relevant to particular areas of activity or belief, can be called institutions, or, in Durkheim's phraseology, collective representations.[8]

It is the institution which continues to express a common meaning by which people can live a common ideal, but to which the individual in society must relate:

> "The patterns created by the brain, and the patterns materialised by a community continually interact....Communication is the process of making unique experience into common experience..... The individual creative description is part of the general process which creates conventions and institutions."[9]

1.3.4 The Role of Culture

The concept of culture as a system of shared meaning is not common to all culture theorists. Though the

concept has been treated in a great variety of ways, formulations can be seen as falling into two general types, either behavioural or normative.[10]

The behavioural concept of culture also utilizes the distinction between culture and instinct, but in this view, the result of the communication process is learned and shared behaviour, rather than shared meaning. Culture is therefore all that behaviour which is neither idiosyncratic nor instinctual. Such a formulation poses many difficulties. The long history of attempts to distinguish between behaviour which is influenced by environment and behaviour which is hereditary has not been fruitful. The generally accepted position today is to treat all of our hereditary predispositions as being to varying extents influenced by society, and, conversely, to regard our learning process as being inextricably linked to the biology of the species.[11]

The far greater difficulty with the behavioural concept of culture is in the drawing of the distinction between idiosyncratic and learned/shared behaviour. All behaviour is obviously idiosyncratic in the sense that no behavioural sequence is ever replicated exactly. Common sense, however, tells us that a large percentage of our behaviour is similar in form to the behaviour of others, and that others recognise it as so. In other words, our idiosyncratic behaviour sequences are perceived by others as particular transformations of idealised behaviour patterns. This however moves the concept of culture from a behavioural base to a normative one.

A normative view of culture separates culture from behaviour, per se, and treats it as a system of models for and of behaviour, as well as a system for viewing and interpreting the world. The shared meaning which resulted from the process of communication, as discussed in the previous

section, are therefore the elements of a cultural system which can be termed normative rather than behavioural. Having made this important distinction between action and idea, it is profitable to look at the development of that theory which attempts to outline the role of culture. That is, how is idea translated into action, and vice versa?

The development of anthropological theory over this century is primarily identified with two schools of thought known as functionalism, and, as a development, structural functionalism. This is not the place to analyse the development of these theories in detail. However their formulation represents the development of the Durkheimian view of 'collective consciousness' into a model of the relationship of individual and culture, action and idea.

In broad terms the model is one of equilibrium. Society is seen as continually subject to disturbances, but has a tendency to re-organise and re-integrate. The process of disturbance and re-integration operates through action and reaction between three distinct domains within the real world.

The first of these is the cultural system, which includes the 'symbolic and ideational realm of value, norm, concept, and style'.[12] This is the same cultural domain that has been identified above. It is the domain of objective knowledge, of shared meanings. These meanings taken collectively represent the set views of society about the nature of the universe, and about man and social relationships. The views are thus both normative (they establish what should be done) and cognitive (they dictate modes of perception of reality). The specific terms norm and value can be seen as describing

what, how and why things should be done. The terms concept and style can be seen as describing what, how and why things should be thought. All, however, are mental constructs. Individual and group activity, both action and idea, is seen to follow from these constructs.

In the equilibrium model, the cultural totality is not seen as a mere agglomeration of these elemental mental constructs. The elements are organised into a system. Elements which share some common theme are grouped into what are described as institutions, a concept which will be returned to shortly. Institutions themselves group into the totality of culture. Element to element within institutions, and institution to institution are seen as possessing structured relationships, based upon logical and aesthetic consistency. The second domain is identified as that of the social system. This is a domain of activity; the environment and people interacting within it. The system is seen as an integrated one, achieved through the mutual adjustment of the activities of people and the form of the environment. The third domain is the personality system and can be described as 'the organised system of the orientation and motivation of action of one individual actor'.[13]

The equilibrium of this model of social action was believed to lie in the unity of the three domains, or, at least, in the less dogmatic of its interpretations, in its tendency towards unity.[14] The system in its ideal state was seen, therefore, as devoid of conflict and/or contradiction.

When the personality system and/or the social system varied widely from the cultural system, as, for example, when conduct and norm diverged, then a range of possible manipulations were expected to occur. One possibility

was that negative sanctions were applied which served to bring the conduct back into line. Where the behavioural divergence was strong and widespread, then the norm, or other relevant element of the cultural system, readjusted. This in turn required further manipulation within the cultural system itself in order to re-establish its internal logic of balanced relationships, cultural element to cultural element, and institution to institution.

A summary of this viewpoint sees man, society, and culture as balanced and integrated. If man has divergent urges, they are rechannelled and restrained. If he deviates, then there are sanctions to prevent this, or he is referred to some form of institutionalised deviation. Using Murphy's description, 'Norms guide behaviour, and behaviour reaffirms the norms'. [15]

The development of this model of society went hand in hand with an increasing concern, in the anthropological world, with methodology and scrupulous attention to empirical research.

As with all good science, empirical evidence has been collected in forms which could serve as much to refute theory as to verify it. Much of this evidence did indeed begin to create cracks in the equilibrium models. Various studies of cultures from around the world, and, in particular, studies of Western society itself, exposed facts that were probably always known, but had been ignored or avoided in the pursuit of practical research. This all the more so in the case of studies of small-scale pre-literate cultures where prolonged critical examination of theory was set aside in order to record as much as possible the ethnographic data which were disappearing at an alarming rate as 'modernisation' proceeded. The evidence which began the cracks highlighted

the point that in many societies, and in parts of most societies, there was not equilibrium, or even a tendency toward equilibrium. Instead there were contradiction, conflict, anxiety, and instability.

The importance of this evidence to the argument is that it has led to a reformulation of the concept of the relationship between the cultural, the social, and the personality systems. The equilibrium model saw man as a well socialised animal who tended to behave in accordance with his society's normative and cognitive ideals. The more recent trend is to treat these mental constructs as mental codes according to which mind arranges reality.[16]

This reality is potentially a continuum of internally and externally perceived thought and behaviour, often chaotic and contradictory, and in a constant state of flux. The mental codes serve to reduce the flux to discrete objective categories and make it thinkable, and serve also to obscure chaos and contradiction to produce a standardized rationalization of a way of life.

In Levi-Straus's terminology, the mental codes are conscious models. He sees their purpose as existing to perpetuate the system of social relations, and they do so by simplification and partial falsification. The conscious model patches up the untidiness of society and produces an appearance of order.

It can be seen, then, that the composition of the cultural system has at this point remained essentially unchanged. Its function has, however, altered radically, as has the status of its components. No longer is social life ordered by the accommodation of behaviour to norms. Rather, the social system, for all its complexity, contradiction, and continuous change, is accommodated

Each of these ideational constructs is pertinent to behaviour, either action or thought. But whereas behaviour is a continuum, both at it is undertaken by the individual, and as it is presented to him as undertaken by others, the cultural constructs which are in part the means through which the individual interprets behaviour are categorical devices. By virtue of their specificity, they make reality thinkable. The continuum of behaviour can be conceived of as segmentable into categories which are discrete. This may be a falsification of reality, but is nonetheless necessary. As the discrete mental constructs can be grouped to form the broader ideational models we call institutions, so they can be used as part of the conceptual process which identifies broader behavioural patterns.

For example, specific norms exist which relate to behaviour at the dinner table. These same norms can be grouped under a broader mantle which would be labelled etiquette. What we call institutions are conglomerations of cultural constructs (norms, values, etc.) which are grouped by virtue of their relevance to particular human concerns.

However it is important to realise that membership of any cultural construct is not confined to a particular institution, nor is the cultural system composed of a finite set of discrete institutions.

To take the latter point first, the cultural system, in its objective state, may be envisioned as a finite set of specific cultural constructs, at least at any moment in time. And this is with the rider that in reality any, if not all, constructs are in a state of creation, moving to extinction, or changing in the light of their interplay with individual minds and the action system.

by the individual mind via the illusion of a superior and simpler order. The implication of this change in function is that those components of the cultural system, those mental constructs which have been described as norms or values, are in fact cognitive rather than motivational in status.

It is evident that underlying this concept of culture there is a very different process through which the personality system, the social system, and the cultural system interact. Based on the premise that the individual does possess a degree of autonomy from society, and witnessing the discrepancy between posited models of behaviour and actual behaviour, there is an increasing tendency to see the process, not as mechanistic or organic, but as dialectic.

Such a process is one of interplay, where no domain emerges victorious. and no domain is completely reducible to the other. It is not a process which aims at stability and equilibrium, but a process aimed at discovery. It is the answer to the question put by Murphy:[17]

> 'not what are the roots of stability, but what are the roots of activity?'

Mind, culture and activity are seen as related but not at all complementary, and within each of these domains there is as much contradiction as harmony.

Society is no longer as tidy and transparent as the structural-functionalists would have it, but neither is it chaotic.

The individual seeks security and order as a condition of his psychological functioning,[18] and the norms of the culture system provide the image of order and fitness, just as values provide an image of purpose in a world

in which individuals appear self-interested as often as they appear community-minded, and in which the results of action are always indeterminate. [19]

It was a part of Levi- Straus's contribution to anthropological theory to expand upon this model of the system of social action. Recognizing the distinction between the informants' conscious model and their actual behaviour, he saw, in their counterpoint, mental infrastructures or 'unconscious models' which were at once explanatory of the conscious models and of the system of social action. 'True' description of societies could only come about by casting the conscious model against the mode of operation of the society to reveal its transformation.

The methodological implication of these views is to be discussed in the following section. However, having come thus far in the analysis of the role of culture, it is now necessary to analyse in more detail the structure of the conscious cultural models.

1.3.5 Institutional Patterns and their Relationship

Each individual, in the course of his life, is translating phenomena into experience, and this process is a subjective one, prone to interpretation via the individual's prior experience seen both individually and culturally. Each individual has his representation of reality which is very real to him.

Through social life, however, these images of the mind are not completely individual fantasies, for people tend to share their representations of reality, and thus legitimize and reinforce one another's interpretation of it. These shared representations go to make up what we have called the cultural system. They are more specifically referred to as norms, values, concepts , and styles.

Institutions, however, are of a different order. A particular focussing of attention, a specific concern, gathers as many cultural constructs as are relevant to that concern to form a group of constructs, and that grouping is labelled an 'institution'. There are, therefore, as many institutions as there are human concerns. This is why, as noted earlier, anthropologists avoid classifying the cultural system into its component parts. While it is common usage in Western socity to classify in terms of 'politics', 'religion', 'economics', etc., a list is in fact meaningless, not to mention endless.

What is important about institutions is that they can be seen as models. Whilst the series of institutions is infinite, the series of constructs which compose any institution is finite. Furthermore, that set is important not only in terms of what is included, but, equally as importantly, in terms of what is excluded.

In reality, any individual's conception of that set will likely be incomplete, for no individual will 'know' his culture in its totality.

In reality, also, slight differences in focus will lead individuals to form slightly different sets. Nonetheless, the sets are often sufficiently similar for groups of individuals to share a common appreciation of them, and to regard them as models of particular concerns, those concerns being common to the group.

Thus, considering etiquette again, either whole societies, or groups within societies, may share a cultural model of such behaviour. Individuals may see certain specific constructs which relate to etiquette as having relevance to particular social interactions. But they also have a conception of the larger model of etiquette as a

structural system of the specific constructs which compose it. Knowledge of the model permits more generalised comprehension of manners within the domain of social action, and hence greater flexibility in the individual's choice of behaviour on specific occasions.

Knowledge of the model also defines, by exclusion, behaviour which is not subject to codes of etiquette, and this, of course, is as important as knowledge of behaviour which is subject to those codes.

It is now possible to return to the first point - that membership of any cultural construct is not confined to a particular institution. The relativity of institutions will ensure that a cultural construct which is relevant to one particular concern, and hence a component of that institutional set, can also have relevance to other concerns, and be a component of other institutional sets. Consider, for example, a woman choosing a husband in an exogamous society. There will be certain cultural constructs which outline those men from whom she can make her choice, and the attributes they should possess. That set of constructs can be seen as an institutional model of groom selection, itself a sub-model within the larger institutional model of marriage.

Now consider the same woman and her status level within the community. Within her society there is a set of constructs which outline conference of particular status levels in accord with certain attributes of the individual. Those constructs compose the institution of status. Any norm, therefore, which relates both to groom selection and status - for example, that a woman should marry a man of equal or higher status - will form part of the model of groom selection, and also part of the status model.

Institutions can be seen as related in this matter - via the sharing of mutually relevant constructs. This again is a very different form of relationship from that outlined in the equilibrium model of culture which depicted a structure of institutional harmony. Institutions are not structured to form stable relationships with other institutions, but are related in a manner whereby they acquire meaning from the sharing of constructs of mutual relevance. In the example above, the institution of groom selection cannot be fully apprehended in all its meaning without reference to the institution of status. Such relationships are of cognitive value, but they need not be harmonious, or encourage stability. For example, many of the various values which make up the protestant work ethic can be located in both the economic and religious institutions of Western society, and form one of the bases of the relationship between the two. Nevertheless, the relationship between Capitalism and Christianity cannot be described as a harmonious one. [20]

1.3.6 Summary

A working concept of the cultural system has now been arrived at. It is seen as a normative system rather than a behavioural system. It is composed of mental constructs whose function is primarily cognitive, i.e. together they form a group of individuals' shared representation of reality. Sets of such constructs, formed by virtue of their shared relevance to particular concerns, become models of behaviour which are referred to as institutions.

The relationship between mind, social action, and culture is a dialectic one, where each domain unfolds through constant interplay between them. Stability is never achieved, for the individual will never be totally socialized, and actual behaviour will never fully correspond with the normative models.

Given this interpretation of the cultural system, it remains to investigate the notion of built form, and the nature of its relationship with culture.

1.3.7 Built Form and Culture

1.3.7(a) Introduction

Built form, a term of fairly widespread usage in contemporary architectural literature, has risen to this prominence in accord with the contemporary tendency of architectural research and criticism to look again at the architectural contributions of various cultures and ages. This new appraisal includes as its subject matter not only the monumental, the stylistic, and the elite architectural edifices, but includes as well everyday public and domestic building and construction.

It addition, its scale is broader. It encompasses not only individual buildings and their component parts, but the patterns of form which these buildings create in a hierarchical ordering. This order extends from the intricacies of internal spatial arrangements and structures to the patterns of cities and towns across a cultural geography.

1.3.7(b) Built Form as Artifact

The first essential, if obvious, attribute of built form is its status as artifact - that class of objects not part of the natural world but brought into being as a result of human inventiveness and workmanship.

This inevitable relatedness to man means that artifacts will not be perceived as objects, per se, but rather as objects in a certain relationship to man. All artifacts

are perceived, not only in terms of their sensory nature as physical objects, but more importantly in terms of why they were created, how they were created, and how they are used - in other words, the meaning which they have for man.

Therefore, whilst individuals may act within built environments which are physical spatial arrangements, their perception of those environments is not only a perception of sensorial quality, it is also perception of meaning.

1.3.7(c) The Relation to Culture

It has already been noted that attempts to formulate culture as a particular brand of behaviour which may be differentiated from idiosyncratic and instinctive behaviour led nowhere. One cannot, therefore, postulate the relationship between built form and culture in a manner which depicts certain environments as settings in which cultural behaviour takes place.

However, one can postulate a notion of the relationship via the model which has been arrived at linking mind, social action, and culture.

This model is in the main the product of the thought of anthropologists, sociologists, and psychologists, whose natural concern is with the individual and society, and whose aim is the explanation of individual and group behaviour. Much of that behaviour is action (as distinct from idea) which takes place within environments, of which, in turn, much is built form.

This domain of social action has been seen as often organised and structured, but just as often chaotic and contradictory. One would not, in such a domain,

expect to find stable, predictable links between behaviour and environment, and, as noted earlier, attempts to do so have met with failure.

However, it was also seen that each individual composes his own representation of life in this domain, and manages to share significant portions of that representation with others to create the ideational system we have called culture.

Anticipating that a number of those mental constructs which go to make up the cultural system will bear reference to some aspect of built form, we have arrived at a concept of the nature of the relationship between built form and culture. Remembering that, for example, a norm which relates a particular type of behaviour with a particular environment is cognitive rather than motivational, then it is clear that the existence of such a norm in the cultural domain does not of necessity always imply corresponding conjunction of behaviour and environment in the domain of social action. Nevertheless, that group of cultural constructs which do bear reference to aspects of built from will form a rationalisation and standardisation of a particular society's behaviour in relation to its environment. Actual behaviour in relation to particualr environments will be in terms of the dialectic resolution of individual motivation (mind), forces and circumstances within the domain of social action itself, and the cultural constructs which relate to behaviour in those environments.

The first postulate as to the relationship between culture and built from would be, then, that in so far as those communally shared constructs which make up the cultural system bear reference to built form, then, taken together, those constructs within a particular

society document the nature and extent to which built form has been rationalised within its cultural system. Put simply, man models his relationship with the environment within the cultural system in the same manner as he models his relationship with other men.

The second postulate would be that, in so much as the built environment is a part of the domain of social behaviour, and specific phenomena within this domain play their part in the resolution and evolution of the cultural domain, then built form and culture are also in this sense related. In other words, whilst the cultural models of built form and models of behaviour connected with it do not necessarily correlate with actual built form and actual behaviour connected with it, the two domains are certainly not independent. The former may be a rationalisation of the latter, but manipulations of man-environment relations in the latter will perhaps prompt revision of the models of man-environment relations which make up the former.

1.3.8 Back to the Problem

The point has now been reached where it becomes possible to explain the various particular dissatisfactions that individuals have with the architectural environment within a single overall framework. Through the realisation that the relationship between an individual and his physical spatial environment is mediated by a socio-cultural model, it is evident that the inadequacy of any spatial environment will be a result of the employment by the users of that environment of a model which differs from that employed in the design of that environment. Such a situation can arise by a variety of means and these are outlined below, supplemented with an example from everyday experience.

1. The most obvious instance is where new environments have been evolved from models other than those from which the normal users operate. The most blatant examples of this are of course contemporary inner city landscapes or high-rise housing developments. Whereas the designs of these forms have been based on notions of economic efficiency and profit maximization, the inhabitants of the same complexes, i.e. the office workers and flat residents, are used to interpreting, acting upon and within spatial environments using a totally different set of notions. By ignoring the models currently used by the inhabitants and supplanting them with another set, the result is at best confusion, and at worst incomprehension and alienation.

2. A second possibility results from a situation where, even sometimes despite the best of intentions, the environments produced are open to interpretation, through current socio-cultural models, as being undesirable in some manner or other. Instance some of the Bauhaus buildings which, though designed with the best intentions, were nevertheless frequently interpreted, because of their rigid geometries, pure surfaces, lack of decoration, and cold coloration, as being sterile, barren, and inhuman.

3. Because of their interrelationship with other institutions within a culture which are open to change, some spatio-cultural constructs may be fundamentally altered over time. In their previous form they are then no longer useful or applicable. Where new environments are constructed based upon either a belief in the continuing existence of such constructs or an ignorance of their altered format, the result is a product divested of meaning, at least as it was intended. For example, some of the dissatisfaction with the more flamboyant

and opulent of opera houses may well stem from the fact that a concern for the underprivileged and disadvantaged sections of the community has been reflected in a changing attitude to art and 'culture'. A building which speaks therefore of art as elitist loses its desired significance for those who see art as of and for the people.

4. Finally, some older environments have have been derived from constructs which are no longer applicable to contemporary society, and be sufficiently inflexible as to be incapable of interpretation via contemporary constructs. For example, some of the earlier reform schools with their then desirable image of institutionalisation and regimentation were so rigidly expressive of these attitudes that it is impossible to interpret them in any other fashion, despite the fact that such values, whilst once upheld, are no longer sought after.

It is important to note, however, that whilst the failure of any environment is always the result of this logical confusion, there is no one-to-one correlation (as common sense will surely support) between a particular construct and a particular physical environment. Spatio-cultural constructs are generative rather than determinative of physical forms so that each construct may be manifest in the real world within an array of diverse physical forms. Three important conclusions follow from this.

Firstly, it becomes possible for a physical environment generated from one set of constructs to be successfully re-interpreted through another. Thus, for example, a thatched native hut becomes a gazebo beside a pool at the Hollywood Hawaiian Hotel.

Secondly, the mere reproduction of physical form can be no guarantee of the successful manifestation of a construct which produced the original. Reproduction is not so simple. Is it the materials which are reproduced or the plan, the site orientation, or the proportions? The physical state of objects in the architectural environment is a combination of many aspects and some of these may be directly linked with logical constructs, others totally inconsequential to them.

Finally, for a designer, the interpretation of spatio-cultural constructs is no easy matter, and contains no guarantee of success. There is no step-by-step sequence for making the transformation into physical form. Such a difficulty is however no excuse for avoiding the matter. The design of any new environment should always be an attempt at an expression of such constructs as are deemed relevant. By thus externalising the design process, even failure is constructive in that, through a combination of the attempt and its inadequacy, the designer has come closer to an understanding of that particular construct and the process of its physical manifestation. On the other hand, to design intuitively, in the dark so to speak, is to have no means of assessing the reasons for either the success or the failure of the exercise, and there can be no build-up of a measure of experience to be taken on to successive exercises.

1.4 DEFINITION OF OBJECTIVES

The primary objective set for the thesis is to discover the full extent of those various discrete mental constructs which bear reference to built form, as they exist within a particular cultural context, and the manner in which those constructs are grouped to form that society's conscious model of its relationship with the built environment.

In so doing, it is intended to discover also the inter-connections of that model with the other conscious models which compose the cultural system. It is thereby hoped to expose to some degree the structure of the relationship between built form and culture.

A similar approach has previously been adopted by a number of authors. Amos Rapoport and Paul Oliver are both well known in architectural circles for the development of the thesis that cultural values are of immense import in the creation and use of built form. Their work has cited many examples from a diverse range of cultures to support this thesis.

Though in fact the thesis had never been suspect in principle by any who would give the question a moment's thought, their ideas came at an important and necessary time, for much architectural work (in the third world countries in particular) was being derived from an imbalanced set of design criteria, concentrating in the main on technological and economic efficiency.

There still appears to be the need to stress their approach, but also to extend it:

(a) to apprehend the degree to which logico-spatial constructs pervade the totality of a single culture, and
(b) to investigate the changing patterns of these constructs over time.

Holistic cultural studies are admittedly no longer popular in anthropology. Whilst this dissatisfaction stemmed partly from a dislike of the kind of sweeping generalities that such studies tended to produce, there was also a theoretical objection. If one accepts the existence of

(a) an objective structure of a culture
(b) the model of that structure used by a native, and
(c) the model of that structure developed by an anthropologist

then the studies referred to above were usually an undifferentiated mish-mash of the three.

Whilst there is a measure of controversy as to the relative merits and possibilities of describing a culture from the point of view of either (b) or (c), it is certainly agreed that an attempt should be made to distinguish them. Further, both (b) and (c) are partial and transformed versions of (a) and thus neither can pretend to be a complete or 'whole' description of a culture.

Though early holistic cultural studies may have organised their data with an imposed Western framework, for example by discussing politics and status as separate orders, it was eventually realised that such Western distinctions were often unworkable and meaningless when applied to other cultures. If the tendency, then, was to attempt cultural descriptions which were as much as possible in accord with the patterns of the culture under study, anthropological interest shifted its emphasis to concentrate on the theme of culture in action. That is, in simple terms the investigation of the priorities used by an individual in resolving (i) the various and sometimes contradictory things he should do or think, (ii) his individual motives, and (iii) historical circumstance, into individual action and belief in the real world.

The early holistic studies concentrated on (i) and as a result fell short as descriptions of human behaviour, whilst pretending to do so.

To reach a synthesis of (i), (ii), and (iii) it is, however, essential to understand each separately. It is for this reason that this thesis concentrates on reaching an understanding of the formal cultural system, the 'shoulds' and 'should nots' which are in their part responsible for the creation and use of built form in everyday life.

Whilst therefore being an incomplete explanation of the creation and use of built form, the identification of this value system is seen as a necessary step towards that explanation.

Finally, there is the objection that even such an analysis is likely to be incomplete in its own terms, both in its identification of the full extent and of the detailed content of that system, and thus lapse into the type of sweeping generality mentioned above. In answer to this it can be said that such a study will not claim to be a complete statement, but rather, an attempt at the most complete statement possible. The aims of science, whilst directed at complete or truthful knowledge, are primarily attempts to improve knowledge, to increase its truth content and/or decrease its falsity content. The inability to assess the totality of the subject is no argument against the need to attempt such an assessment and the need to expand upon, to better, those partial statements already in existence.

Having thus looked at the scope and justification of the primary objective of the thesis, some greater detail can be given as to what the achievement of that objective should entail.

Firstly, it is useful to differentiate between those cultural constructs which relate to the creation of built form, and those which relate to its use. Taken

collectively, the former produce a model of the communally shared approach to the planning and construction of the various elements which compose built form.

A number of the constructs which comprise this model will be specifically concerned with constructional techniques, and with individuals or groups within a society who hold this knowledge.

Links should therefore be apparent with other cultural models concerned with technics and resource exploitation, and likewise, with models of social and status groupings within the community of whom the specialist builders form a part.

When it comes to the planning and layout of elements of built form, from the micro-scale of the individual dwelling to the macro-scale of towns and regions, the distinction between creation and use is more difficult to draw.

Whilst constructional techniques will most commonly relate to intrinsic properties and requirements of the physical elements of the built environment, planning models are predominantly models of use - those constructs which outline the arrangement of the built environment are generally formulated in terms of human habitation and use.

Nevertheless, planning models are not always based solely on human use requirements. Manipulations of formal geometrics for their aesthetic value, arrangemnts performed for their particular symbolic and/or historical connotations, models of this kind relate primarily to the creation of form. Whilst such forms are subsequently inhabited and used, the generative model is formulated independently of considerations of subsequent use.

The individual constructs and cultural models which relate to planning in this sense will potentially bear reference to all manner of cultural concerns, and analysis can therefore be expected to cover the full cultural spectrum.

Knowledge of such constructs and models may be shared throughout the community, or may be held only by certain specific groups or individuals within it.

When it comes to the constructs and models which relate to the built environment in use, again analysis can be expected to be broad in the extreme.

The extent to which human behaviour, both action and idea, takes place within, or concerns itself with, the built environment suggests that a detailed analysis of any society's model of its relationship with that environment will touch upon most aspects of the cultural system as a whole.

Though the structure to be used in this analysis is discussed in more detail within the following section on methodology, in broad terms it is thus the intention of the thesis to firstly identify the various elements which compose the built environment of a particular society. In relation to each element, it is then the intention to outline those constructs and models which are seen to represent that society's cultural conception of its relationship with that element, both in terms of its creation, and in terms of its use.

1.4.1 Subsidiary Objective

From the initial stages of research, it was obvious that there had been little documentation of the details of Gilbertese architecture, and that what was in existence

was scattered amongst a number of sources. The traditional forms themselves, and the knowledge of their creation and use in the minds of the Gilbertese were in a state of decay.

Though the Gilbert Islands were selected as a case study for the exemplification of a general approach to the appreciation and explanation of built form, a major subsidiary aim of the thesis became the urgent compilation of an ethnographic record of traditional Gilbertese architectural practice. It is in this light that the thesis should have its greatest benefit for the Gilbert Islanders themselves.

1.5 METHODOLOGY

1.5.1 Choice of Study Area

In the light of the aims documented above, the choice of the Gilbert Islands offered a number of advantages in terms of reducing levels of problem scale and complexity. The architectural morphology was simple - composed of only a few elements, with a consistent arrangement, and exhibiting little variation over time. The island culture had developed in relative isolation over hundreds of years, and in the southern Gilbert Islands the society was unstratified. The islands themselves were small, with low populations, and divided into a number of hamlets all basically equivalent.

Though the work of only a few authors, the ethnological literature was excellent. It covered most of the course of this century and was conducted during extended residence in the islands by people in close contact with the Gilbert Islanders themselves.

One of the southern Gilbert Islands, Onotoa, was chosen because an initial contact was available there. Its size, approximately a 20-kilometre length of habitable atoll, offered access advantages over some of the larger atolls, and it was reputedly typical of the southern Gilbert Islands.

1.5.2 Outline Framework of Data Presentation and Analysis

The broad scope of the thesis has presented some difficulties in the presentation of data and its analysis. Various models within the cultural system, kinship and social relations for example, were seen to involve the broadest range of elements within the built environment. And conversely, analysis of each element of the built environment drew into focus constructs and models from across the entire cultural system.

To achieve the most orderly and concise presentation of data and analysis possible, it was decided to structure that presentation around the elements of the built environment.

Distinct units of traditional Gilbertese settlement pattern are identified within an hierarchical framework, from the individual dwelling to the island settlement pattern as a whole.

Taking each in turn, the analysis conducted in Part One presents a model of the traditional built form/culture relationship.

Of necessity, the early chapters in this section involve the presentation of a considerable wealth of cultural data. As the text continues, back reference to this

material enables the analysis to proceed more freely.

In addition, where in the early chapters explanation of points of relatively minor significance would involve a complex outline of cultural material, only brief reference is made. The more complete outline is reserved for the more appropriate occasion.

It should be noted that the model arrived at in Part One presents a picture of little cultural change. On the one hand, this is a direct result of a reliance upon historical data which the Gilbertese, lacking a script, could only hold in oral traditions. Detailed data which might point to the full extent of pattern variation and adjustment are therefore not available. However, a comparison of those data which are still available concerning the early history of the Gilbertese with accounts of Gilbertese culture during the beginnings of the European-contact period suggests that little structural change did in fact occur.

More importantly, it is a basic tenet of the concept of the cultural system here presented that this system exists in part as mans' means of stabilizing the indeterminacy and state of constant variation which characterizes ongoing life.

To this extent, the models which compose the cultural system will by their nature present a picture of stability, order, and predictability. The model presented in Part One, therefore, whilst not describing the actuality of the pre-contact man-environment relationship, nevertheless achieves the objective of presenting a description of the cultural rationalization of that relationship.

Part Two is an analysis of the contemporary cultural model of the Gilbertese people's relationship with

their built environment. Substantial differences between this model and the pre-contact model were anticipated and found.

Wherever possible, explanations of these changes were sought. Analysis, however, restricts itself to prominent aspects of culture change. Recognizing that European contact was in theory no more than an exaggerated example of the type of internal pressure which is constantly applied to the cultural system as a part of its ongoing dialectic with the personality and social systems, such an analysis fell outside the objectives of the thesis.

Given this cautious approach, there were nevertheless certain advantages to be gained from undertaking such a partial analysis. The concluding chapter of the thesis, based on that analysis, exposes an important aspect of the built form/culture relationship.

This aspect, briefly described, is the question whether built form should be seen as an artifact moulded to suit a community's lifestyle, or rather as a conceptual means towards the ongoing resolution and elaboration of that lifestyle.

1.5.3 Field Techniques

The months March to June 1975 were spent in the Gilbert Islands establishing contacts, generally reviewing the research area, and in linguistic study. The remainder of that year was spent researching the anthropological and architectural literature leading to the formulation of the detailed aims of the thesis and their corresponding theoretical framework outlined in the initial sections of this chapter. The main bulk of field research was carried out during the months March to October 1976.

Data collected were split between three principal sources, the ethnological and associated literature, informant interviews, and observation and measurement in the field.

The ethnological literature, particularly the work of Grimble and Maude, was invaluable in providing an initial framework from which the confusion of everyday detail could be put into some order. Supplemented by the work of Lundsgaarde, this body of information gave an excellent base for an appreciation of the Gilbertese culture. Rather than attempting an individual assessment of those aspects of the structure of Gilbertese culture already documented by these authors (which would have left little time for other essential research), their work was taken to the field and tested in the specific Onotoan context and supplemented and amended where necessary.

With reference to pre-European contact culture and the first decades of this century, the work of Grimble and Maude, based on the testimony of Gilbertese informants, some of whom had been alive in the first half of the nineteenth century, formed much of the data source for the analysis of this period. Indeed, on a number of occasions, Onotoan informants amended their appreciation of pre-contact affairs in the light of this evidence, preferring the accounts of Grimble and Maude to their own.

Initially information was collected whilst residing with a family in one of the clan hamlets on Onotoa. This enabled direct observation of and participation in many aspects of Gilbertese life, helped to establish friendships, and removed many of the barriers faced by a foreigner in the native community. As noted by Lundsgaarde, the Gilbertese do not submit readily to

'systematic, tedious, and repetitous elicitation of data.[21] Where one attempts to participate in the native culture as fully as possible, tries to learn, the Gilbertese become ready teachers. They are happy to part with information if they are sure it will be put to a far better use than the mere filling up of pages of a notebook. Much valuable information was collected during participation in daily activities.

However, it eventually became obvious that the information often required was of that type belonging to specific clans, kin groups, or specialist individuals. By being associated, through residence affiliation, with a specific faction of the Onotoan community, it was difficult to extract detailed information from individuals outside that faction, for they feared that such information would be passed on. After some months the remaining research was therefore conducted whilst living alone in a hut close to the government village. By maintaining an independent existence, but with the advantage of having already gained the confidence of most of the islanders, information was more readily available from the island population as a whole.

Interviews varied from light chance conversations to formal sessions, depending upon the type of information required. Lacking a script, the Gilbertese frequently collect their cultural knowledge into what could be described as 'memory packets' from which it is difficult to extract isolated fragments of knowledge. By stressing the relationships between this information, the whole body is more easily and accurately remembered. Attempts to prestructure interviews were usually unsuccessful because of this, and, whilst an initial question would locate in the mind of the Gilbertese the field of interest, he would prefer to complete the interview of his own terms, according to the pattern in which he organised

this knowledge. This in fact proved an enormous advantage, for as the aims of the thesis centred on uncovering the logico-spatial constructs of the Gilbertese culture, a problem (particularly in the initial stages of research) was to pinpoint just what questions to ask and where to ask them. From each successive interview further clues were thus given by the Gilbertese themselves as to the possible directions to follow.

In this Introduction, Lundsgaarde notes that 'linguistic ethnocentricity on the part of any outsider will result in stereotypic and limited contacts with the people.' [22] During the initial months in the hamlet, all research was conducted in Gilbertese, there being in any case no alternative. Though some linguistic study was undertaken during the year before, the Gilbertese language is vastly different from English and fluency is not easily achieved. This put definite limits on the level of communication, and the progress of research. This was more than made up for by the appreciative stance the Gilbertese takes to an outsider who attempts to participate as fully as possible in his way of life, and was rewarded by a willingness to part with information when it was requested. Fluency was never fully achieved but it eventually became posible to conduct productive interviews, and to participate verbally in the various affairs of Gilbertese life.

Any shortcomings were made up in two ways. Firstly, the help of a Nonouti friend, Bwenawa Io, who could speak some English, was enlisted. He was sympathetic to the problems of interview, and let all conversations proceed as far as possible before offering his help. By re-phrasing complex notions into a more basic phraseology which as a friend he knew would be understood, it was possible to keep all conversations in Gilbertese (if at times a quaint version of the same). This avoided

the alienation which an interview conducted partly in English could have produced in the informant. As Bwenawa was a Nonouti islander, and belonged to a clan not represented on Onotoa, the Onotoans were rarely loath to part with information in his presence.

Secondly, whenever possible, interviews were tape recorded and carefully translated later. This enabled the conversation to flow more freely and eased any frustration the Gilbertese might have experienced in trying to communicate their ideas. Those complex notions, which were simplified by Bwenawa that conversation could proceed, were retraceable on the tape in their original linguistic form.

Physical structures were documented according to conventional architectural format, using plans, sections, and elevations supplemented with drawings and photographs. Though the Gilbertese use a measuring system based on the human anatomy, all measurements were taken in metric units. Reference is made to the Gilbertese units where applicable.

Land divisions were compiled with the assistance of the local clerk of the court, and the various hamlet elders. Climatic data were recorded throughout the period of residence as a check on the available meteorological information, though a 12-month survey was recognised as being grossly inadequate for the production of reliable averages.

It was always desirable that comparisons be made with other southern islands in the Group, particularly with reference to the physical structures. However, as each island was only accessible by a monthly boat, such a survey was not feasible within the time available.

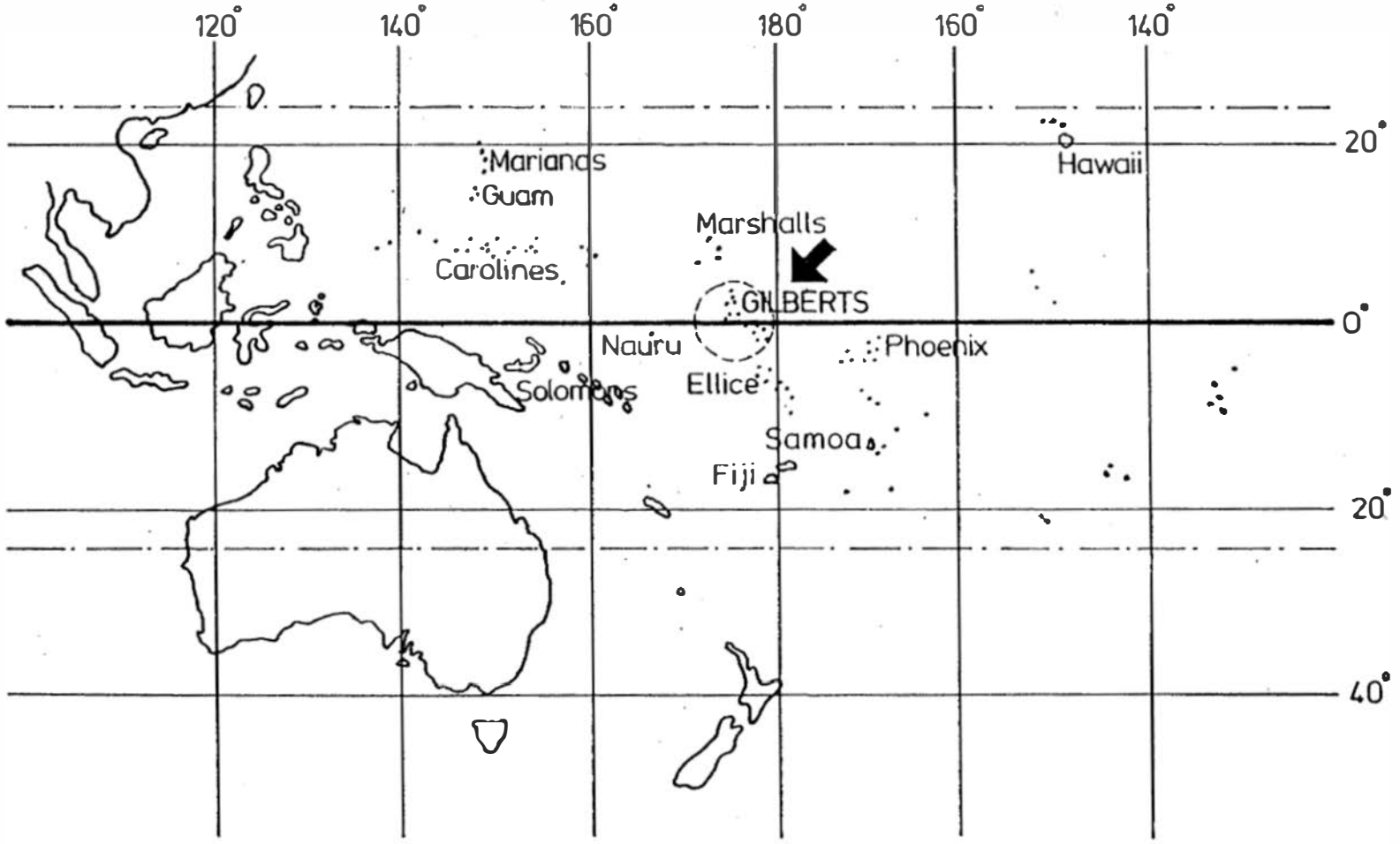
1.6 GEOGRAPHICAL INTRODUCTION TO THE GILBERT ISLANDS

The Gilbert Islands are composed of 16 tiny atolls which sit astride the Equator between 3°S and 4°N latitude and between 172°E and 177°E longitude. See figure 1 and figure 2.

Most of these islands, including Onotoa, on which fieldwork was conducted, are typical Pacific atolls. Their land area is tiny, with only a metre or two of elevation above sea level. The basic structure is a circular reef platform set on a pedestal of a submarine peak, and enclosing a lagoon. The windward reefs have been built up to become a land platform composed of a chain of tiny islets broken by sea passages between the lagoon and the ocean. See figure 3. The soil is basically decomposed coral sand which supports only the hardiest vegetation. The principal flora are coconut and pandanus, under which grow patches of light scrub.

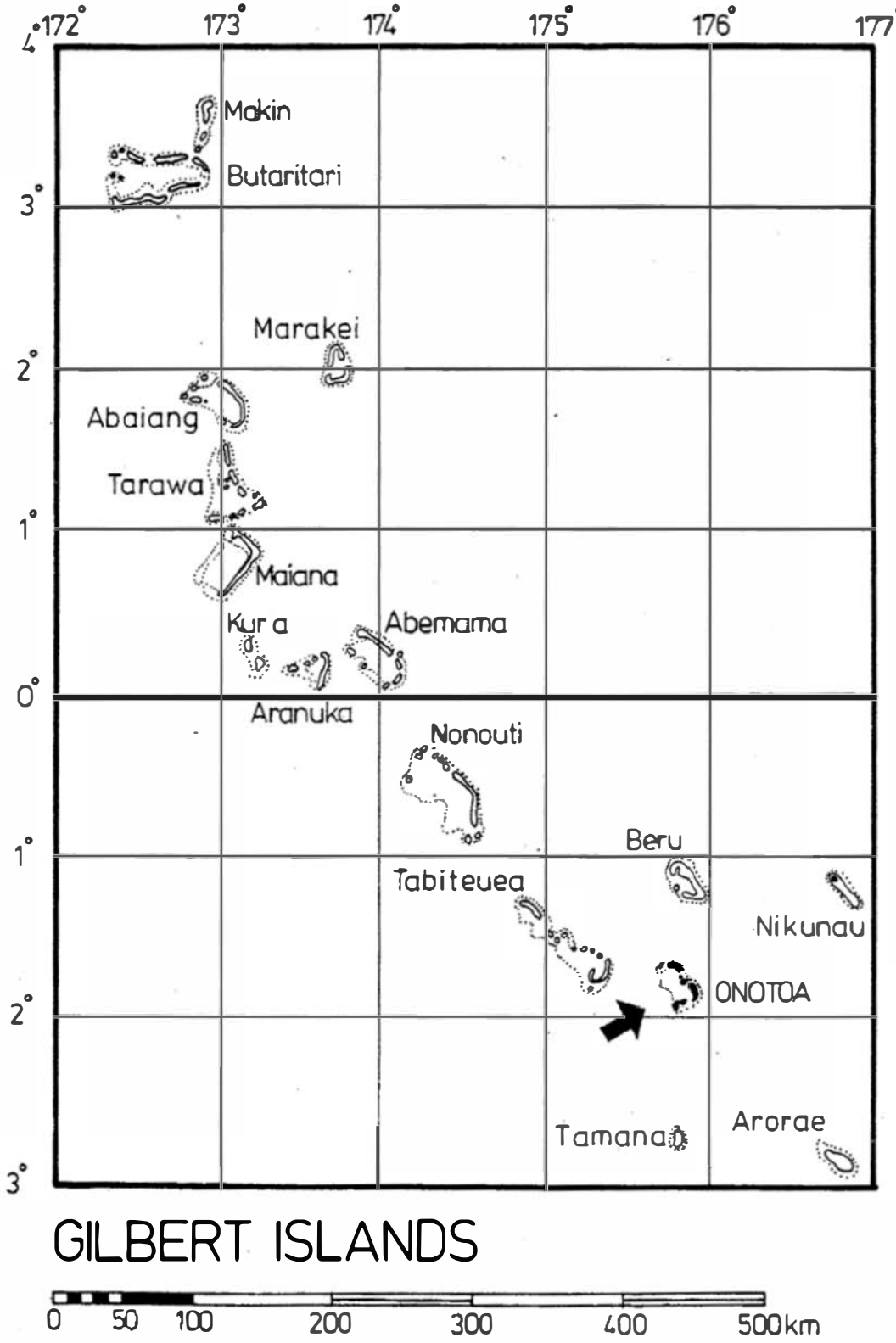
The islands possess a typical oceanic climate and are placed in the dry belt of the central Pacific. Because of this location and their minute area which does not encourage a build-up of cloud, the islands are frequently subject to drought. There is however a distant rainfall gradient from north to south, which allows the wetter, northern islands to support additional crops such as bananas and some vegetables.

A full discussion of the Gilbertese geographical profile is given in Appendix 1.



WESTERN PACIFIC

FIGURE 1


172°
173°
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0°
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Makin
Butaritari
Marakei
Abaiang
Tarawa
Maiana
Kur a
Abemama
Aranuka
Nonouti
Beru
Tabiteuea
Nikunau
ONOTOA
Tamana
Arorae
GILBERT ISLANDS
0 50 100 200 300 400 500km

FIGURE 2

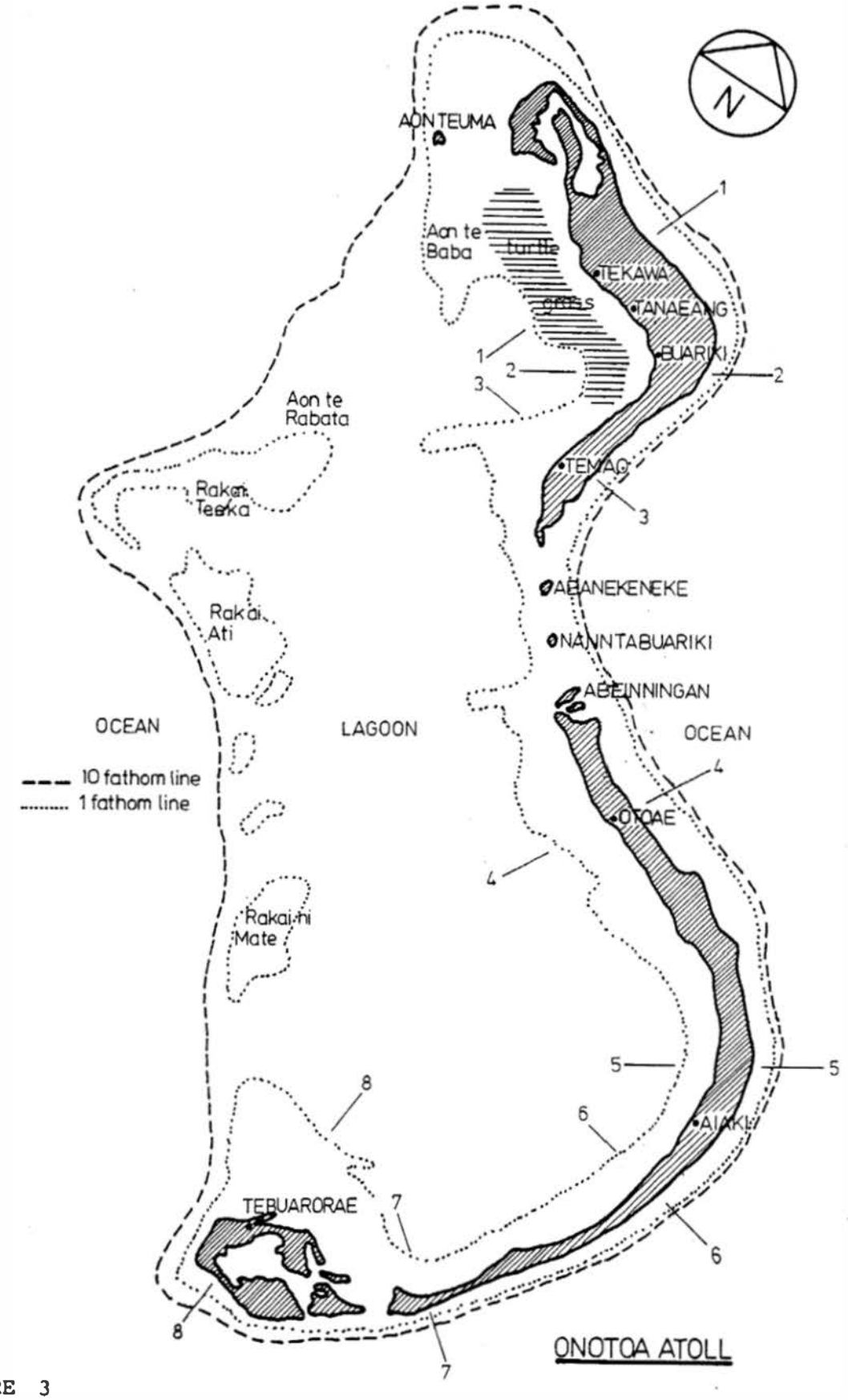
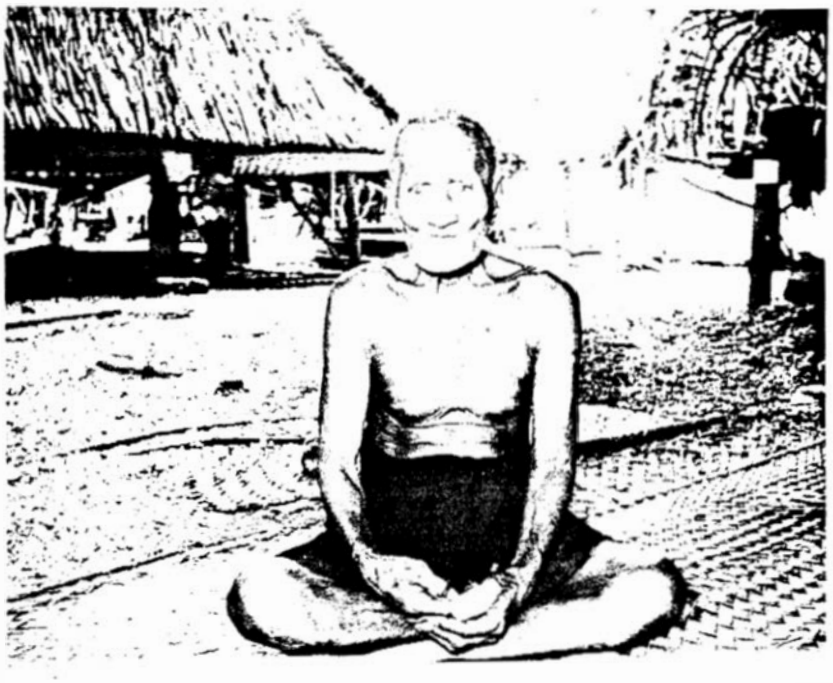

N
AON TEUMA
Aon te Baba
turtle grass
TEKAWA
TANAEANG
BUARIKI
Aon te Rabata
Rakai Teeka
TEMAO
ABANEKENEKE
Rakai Ati
NANNTABUARIKI
ABEINNINGAN
OCEAN
LAGOON
OCEAN
10 fathom line
1 fathom line
OTOAE
Rakai ni Mate
AIAKI
TEBUARORAE
ONOTOA ATOLL

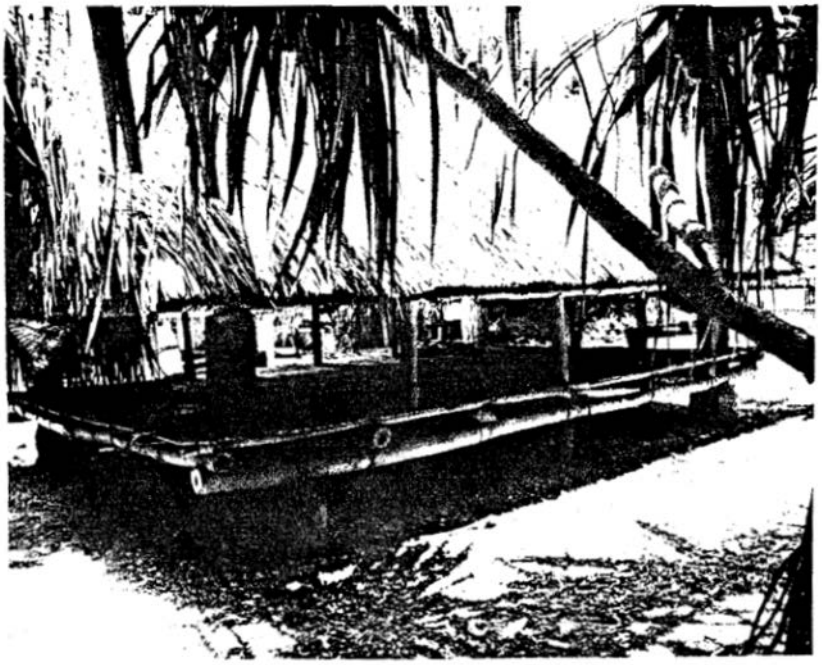
FIGURE 3



Old-Man outside his sleeping house

Meal preparation

Family compound



Sleeping house

Disused housing site

Family compound

Small meeting house

Interior of small meeting house

Canoe shed

Canoe shed

1 A. Rapoport, 'The Ecology of Housing', *Ecologist*, 3(1),1973.

2 T. Lee, 'Psychology and Architectural Determinism', *Architects Journal*, 4 August, 1971, p.261.

3 B. Hillier and A. Leaman, 'The Man-Environment Paradigm and its Paradoxes', *Architectural Design*, August 1973, p.507.

4 E. B. Tylor, *Primitive Culture*, Boston, 1871.

5 A.L. Kroeber and C.Kluckhohn, *Culture: A Critical Review of Concepts and Definitions*, New York, 1952, p.186.

6 R. Williams, *The Long Revolution*, Penguin, 1965.

7 J. Z. Young, *Doubt and Certainty in Science: A Biologist's Reflections on the Brain*, New York, 1960, p.161.

8 E. Durkheim, *Les Regles de la Methode Sociologique*, Paris, 1938, p.14.

9 Williams, *op. cit.*, p.55.

10 R. F. Murphy, *The Dialectics of Social Life*, London, 1972, p.45.

11 *Ibid.*, p.46.

12 *Ibid.*, pp.53-54.

13 T. Parsons and E. A. Shils, eds., *Toward a General Theory of Action*, Cambridge, U.S.A., 1951, p.7.

14 Parsons, *The Social System*, New York, 1951, pp.5-6.

15 Murphy, *op. cit.*, p.79.

16 *Ibid.*, p.107.

17 *Ibid.*, p.230.

18 E.R. Leach, *Political Systems of Highland Burma*, Boston, 1965, pp.ix-xv.

19 Murphy, *op. cit.*, p.241.

20 Though the protestant work ethic is undoubtedly a means of mediating between the two.

21 H. Lundsgaarde, 'Social Change in the Southern Gilbert Islands', unpublished Ph.D. thesis, date unknown, p.14.

22 *Ibid.*

23 Gilbertese words, being easily recognisable as such, have not been italicised. Their meanings have been given in the text at first occurrence. There is no formally agreed convention as to the English spelling of the Gilbertese language, and although no claims are made as to the exact accuracy of phonetic transcription, spellings used in the text are generally in accord with Grimble, Maude, and Sabatier.

PART ONE chapter 2

PREHISTORY OF THE GILBERT ISLANDS

2.1 INTRODUCTION

The ancient migrations, the gods and the ancestors of the Gilbert Islanders have played such an important part in organising and giving meaning to the life, customs, and architecture of these people that a study of any aspect of their culture should be introduced by an account of their mythology, legend, and pre-history.

Because of a mixing of races very early in the pre-history of the Gilbertese and the subsequent inter-weaving of mythologies, the myths now contain many apparent contradictions which are at first sight very confusing and would seem to indicate a lack of clarity and consistency on the part of the Gilbertese with regard to their own history.

Pacific historians, notably Sir Arthur Grimble, have long been concerned with the early origins and subsequent migrations of many of the Pacific peoples. Their work provides the framework for unravelling the composite myths of the Gilbertese and allows the placement of the various chief gods and legendary characters into a rational cosmology.

Gilbertese history begins for the Gilbert Islander with the last invasion from Samoa, placed by Grimble and Maude somewhere between 1200 and 1400 A.D.[1] It is from this event that the Gilbertese reckons one of the most important aspects of his life, that is, his ancestry. The characters involved in this historical period are regarded by the islanders as anti-ma-aomata (lit. god-people). But the islanders also recognise a period prior to this, that of the anti or gods.

Beginning with the Creation, it is this period with which their mythology is concerned, and where, among the various myths, there exists considerable confusion.

As this section is aimed at placing these various gods into their relevant context, a brief introduction to the various myths will be given. Following, and drawing from Grimble and others, a final rationale of the network of gods and ancestors will be presented. Only the principal events and characters are summarised.

2.2 THE CREATION

The Creation Myth from Onotoa [2]

The first inhabitants of Tungaru were a short, ugly, curly-haired, flat-nosed race of sorcerers.[3] Their gods were Nareau (the Spider) and Tabakea (the Turtle). These people were created by the power of Nareau.

The myth then becomes an account of the creation of the heavens and the earth known as Te Bo-ma-te-Make (lit. the Darkness-and-the-Cleaving-Together). This act was performed by Nareau and resulted in the creation of a long list of characters, notably Ngkoangkoa, Nei Tituaabine, Tabakea, Bakoa, and Riiki.

Nareau returned to the heavens but first created the second Nareau to oversee the development of his creation. Before leaving he created the lands for the second Nareau to complete, these being Samoa, Beru, and Buatarawa. When he created Beru, he created Tabuariki to take care of it.

Then follows an account of the planting of the Kai-n-Tiki-Aba (the ancestral tree) and an introduction to the characters involved in the coming from Samoa. In summary:

	Primary God	Created Gods	Created Lands
	Nareau	Tabakea, Ngkoangkoa, Nei Tituaabine, Bakoa, Rikki, Tabuariki	1 Samoa 2 Beru 3 Buatarawa 4 Remaining islands
Origin	Heaven	Gilbert Islands	

The Creation Myth from Little Makin [4]

> "A certain being lived in the depths, and his name was Taranga. He caused a tall tree to grow from a seed and it burst through the depths. Subsequently, he found another person hiding in the top of the tree whose name was Auriaria. This tree was the Kai-n-Tiku-Aba and other people grew on its branches including Tabuariki, Riiki, Nei Tituaabine and Taburimai. Auriaria then trod the south and planted the tree in Samoa."

Then follows a history of the people of Samoa led by Batuku (whose god was Auriaria) until their final invasion of the Gilberts. In summary:

	Primary God	Created Gods	Created Lands
	Taranga, who creates Auriaria	Tabuariki, Riiki, Nei Tituaabine, Taburimai	Samoa
Origin	The Depths	Above the Depths and later transported to Samoa	

The Creation Myth from Tabiteuea[5]

> "The First Tree was the pandanus, and its name was Nei Bakatibu Taai (Woman Ancestor Sun). Auriaria was its spirit and it grew in the west. Its occupants were Te Ba, Te Atibu (the Stone) and two eels Nanokai and Nanomaaka. The latter lay together and bore a son, Nareau. That was before the Darkness and the Cleaving Together. At that time were neither things nor men: there was only the giant Nareau and his work was to seek a manner of separating heaven and earth."

Then follows an account of this separation:

> "Then grew the lands. Kai-n-Tiku-Aba in the west grew first and after that grew Tarawa in the east. The third land was Beru, and the fourth was Takoronga of Tabiteuea and the fifth was Samoa in the south. Nareau came to Tabiteuea and met a man Taranga. He made Taranga's wife pregnant and she bore children Au-te-rarangaki (Au-the-continually-overturning), Au-te-wenewene (Au-the-continually-reclining), the Au-te-tabanou (Au-the-skull). These people were our ancestors and their god was Auriaria. From Au-the-skull came forth Batuku. He was a king of Samoa, the Breed of Matang." [6]

In summary:

	Primary God	Created Gods	Created Lands
	Nei Bakatibu Taai and Auriaria producing Nareau	As for Onotoa	1 Kai-n-Tiku-Aba 2 Tarawa 3 Beru 4 Tabiteuea 5 Samoa
Origin	Land in the west, Matang	Land in the west, Matang	

The Creation Myth from Nui[7]

In this myth, the Darkness-and-the-Cleaving-Together is

performed by Auriaria. He also creates Tabakea, and Tabakea has a son, Nareau. These two were land people and they waged war with the sea people: Riiki (the Eel), and Baka-Naaneku (the Sting-ray). The latter were victorious and came to live on the land, and directed by their god Auriaria proceeded to separate heaven and earth. They created Tarawa first and Samoa following. In summary:

	Primary God	Created Gods	Created Lands
	Auriaria	Tabakea who has a son, Nareau. Also Riiki and Baka-Naaneku	1 Tarawa 2 Samoa
Origin	Land to the west	Land to the west	

The Creation Myth from Banaba[8]

This myth is very similar to the Nui rendering and tells how the god Auriaria overcame Nareau, Tabakea's son. It adds that the Nareau folk were small, black, stinking, and flat-nosed, with furry hair and huge ears.

2.3 CONCLUSIONS FROM THE CREATION MYTHS

By far the most common version occurring up and down the Gilbert atolls is the first version, which was recorded by the author on Onotoa. From Grimble's thesis, which as will be shown is corroborated by other contemporary works, the primacy of the god Auriaria can be explained. Furthermore, a solution can be suggested as to why this god has been somewhat relegated in importance despite this primacy.

Coates suggests that a race of people, originally oceanic, left Halmahera in the Moluccas about 450 B.C. via Pulau Waigeo off north-western New Guinea and headed east into the Pacific via the Carolines, the Marshalls, and also the Gilberts.[9] These people worshiped Auriaria. It should be noted that the sun-moon goddess was a common deity throughout the Pacific and that, in the Tabiteuean myth, Auriaria was the spirit of the Woman-Ancestor-Sun Tree.

Then, from the Nui and Banaban myths, it is recalled that Auriaria overcame a people worshiping Nareau and Tabakea. A final key piece of evidence is that in the Gilbertese stories relating to death and after-life the departed spirit returns to the land of the West known as Matang, which is the land of the anti and the home of Auriaria and Nei Tituaabine, who were both tall and fair-skinned. From the Tabiteuean myth, this land is known as Matang.

The evidence therefore seems to support Grimble's thesis that the creation myths involving Auriaria are actually an historical account of the overthrow of a small-statured, ugly, dark-skinned race of Nareau worshipers by fair-skinned westerners who revered Auriaria. To further this thesis, Grimble notes many similarities in place names from this region of south-east Asia with those occurring in the Gilberts.[10] Coates in fact states that a Gilbert Islander speaks what sounds like an ancient slang to an Indonesian, but is still comprehensible.[11]

Further archaeological evidence presented by Pietrusewsky[12], social, linguistic, and archaeological evidence by Marshall[13] and Green[14], work in oceanography by Viotov and Tumarkin[15], and in horticulture by Barrau[16] all stress the west, and in particular the islands of south-east Melanesia, as the main entry route of peoples and culture into Polynesia.

It is also to be noted that in the majority of the myths

concerning Auriaria, Tarawa is created before Samoa. Auriaria is shown to tread the land to the south and replant the Kai-n-Tiku-Aba in Samoa, although it originally grew in the west. Another myth depicts a branch of this tree being planted in Samoa. Finally, a detailed myth with Au-the-Skull as its focus depicts the voyage of the conquering Auriaria followers to Samoa. As Grimble suggests, the evidence points to the victorious Auriaria people, now inter-mixed with the Nareau folk and incorporating him into their mythology, continuing their eastern push into the Samoan area.

From this point on, the myths no longer conflict in their basic tenets, and all the Gilbertese look upon Samoa as the home of their ancestors and the breeding ground of the present race. It can be suggested that over the years the mixed race Gilbertese, with this knowledge in mind (as they would have had closer to the period in question), gradually revived Nareau as the great creator and supreme god because he belonged to the original inhabitants of their islands. Furthermore, it is unlikely that the conquering Auriaria folk were numerically superior to the Nareau worshipers despite their victory, and also unlikely that they would have brought many women on their conquering mission. They would therefore have taken wives from the Nareau people. Married women have always been permitted to retain their anti even when taking a spouse who worships another deity. It would have been difficult therefore to phase out all memory of Nareau whilst he remained the primary god of the majority of the population.

2.4 THE OCCUPATION OF SAMOA AND THE KAI-N-TIKU-ABA

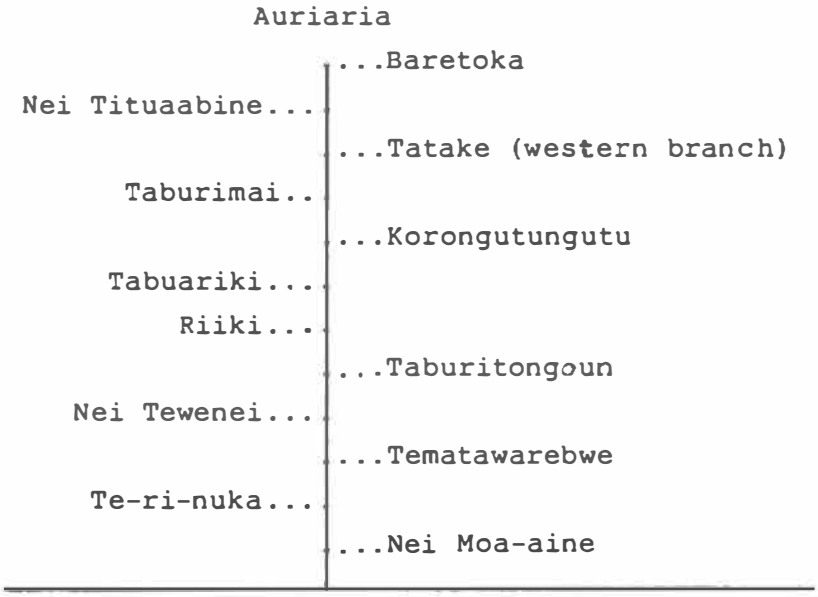
Following the voyage led by Au-the-skull to Samoa, the Onotoan text furnishes evidence as to the meaning of the Kai-n-Tiku-Aba now installed on Samoa and as to its occupants.

The residents of this tree, though only a short list is given here, are the gods and semi-deified ancestors of the Gilbertese race. The Little Makin text lists the occupants as Auriaria (on its summit) and many others on its branches, including Tabuariki, Riiki, Nei Tewenei, and Nei Tituaabine. Taburimai grew from a swelling on its trunk, and Te-uribaba grew from its tap-root. A man named Koura grew from its first bloom.

Information from an Onotoan informant, a member of the Keaki clan, adds further to the list. Included are Tetake, Te-ri-nuka and Nei moa-aine. Interestingly, Koura is the ancestral deity of the Keaki clan, though he is not included in the list. However, from the legend of the Keaki clan, it is found that two birds who belonged to the goddess Nei Tituaabine named Tetake and Tengutu left Samoa. Tetake flew to a mythical land Beberiki, where he alighted on a pandanus tree and died. From the worms of the dead bird emerged the man Koura. It can be seen therefore that Koura, referred to as coming from the first bloom of the Kai-n-Tiku-Aba, is in fact included in the Keaki list as Tetake's son or, in other words, 'first bloom'.

Figure 1 lists the principal deities so far discussed and indicates their relative positions on the Kai-n-Tiku-Aba. The tree evidently symbolically represents the Gilbertese race itself, and the tree's branches, named after the deities which occupied them, represent the various clan 'branches' each possessing as its clan deity the relevant god or goddess.

KAI-N-TIKU-ABA
on
Samoa



2.5 THE RETURN FROM SAMOA

Prior to the cultural decay of this century, family and clan genealogies were traced back as far into time as the migration from Samoa. The gods and semi-gods who led these migrations were regarded as the true ancestors back to whom all lineage was traced.

When the all-important question of ancestorship was in doubt, the Gilbertese would seek the authoritative answer from a member of the Karongoa clan, a clan which is found throughout the atolls.

Those members of this clan who had been chosen to be the repositories and guardians of this genealogical knowledge

held all details of the various voyages undertaken, the principal and supporting characters involved, their itineraries, and ultimate destinations. It is therefore not surprising to find that Grimble suggests it was this clan which comprised the principal invasionary fleet from Samoa. By reviewing the stories and legends which cover this event, it becomes possible to complete the introduction of the principal gods and semi-deified ancestors with which this thesis is concerned. Such a review also serves as an introduction to the history of the Karongoa clan whose invasion of the Gilberts and re-organisation of their culture provide the key to much of the understanding of traditional Gilbertese architecture.

From a collection of legends from Beru, Nui, and Tarawa, the story is told of a certain woman, Nimanoa, who after the breaking of the Kai-n-Tiku-Aba in Samoa sailed northwards to the Gilberts. Some of her party broke from the main group at Tabiteuea, subsequently moving to Nonouti. The remainder including Nimanoa continued to Tarawa where Nimanoa remained, marrying Noubwebwe. The stories are lacking in detail from this point but the remainder of the group spread onward to Beru, Nikunau, and Nonouti begetting children at all these islands. The descendants of these children were the clan Karongoa.

It is unlikely that anything but a large invasionary force could have split itself so much and yet managed to overcome five of the southern islands sufficiently to beget children and establish their clan on each of them.

From Beru comes the legend of the children of Nareau. These children, born of Nareau and Nei Kobine, are the same group referred to in the Tabiteuean myth as the Children of Samoa. The legend specified three separate invasionary forces.

The first of these was a group led by two women, Beia and Kobwebwe, who were daughters of Akau and his wife, Tira.

This group, also leaving Samoa upon the breaking of the tree, fled first to Arorae, planting there a clan totem, the kanawa tree. This tree will be important in the argument which follows. However, it should be noted that the planting of the tree is symbolic of the establishment of this clan and is not to be interpreted as a literal introduction of a plant species.

From Arorae the group proceeded to Tarawa, where both women became the wives of Kirata III. As Noubwebwe, mentioned earlier, was in fact the slave of Kirata III, this invasion must have taken place at approximately the same date as the Nimanoa migration.

The second group, also the 'children of Nareau' but further specified as the 'children of Teuribaba' (king of the underside of the Kai-n-Tiku-Aba), are not specifically named but are said to have invaded Tarawa, Tabiteuea, and Beru.

Of the third group, specified also as the 'children of Te Ritua', no destination is known. All three groups carried the canoe crest known as the Tuft of Karongoa.

These legends therefore depict a further three Karongoan groups invading and establishing themselves on the majority of the southern Gilbert Islands.

From Beru comes another legend concerning a certain Teimone who also led this group to Tarawa. Though not specified as being of Karongoa stock, his descendants to this day have the kanawa tree as their clan totem. Though some totems double up between clans, the kanawa tree is restricted to the Karongoa clan so that it is possible to include the Teimone group with the other Karongoa invaders.[17] With Teimone came Tematawarebwe, Kourabi, and Buatara, the three heading to Beru where they too planted the kanawa tree.

From Onotoa come a further three legends concerning the invasion.

Firstly a group led by Teuribaba (who is known to have sailed under the Karongoa canoe crest) lost a battle with the Samoans, and, after living on the north of Samoa until their food ran out, fled to Onotoa, Nonouti, and Tabiteuea. They were evidently another of the Karongoan groups.

Secondly, a line from another Onotoan legend specified Taburitongaun as swimming with his friends, including Riiki, from Samoa to Nikunau. When Taburitongaun left Nikunau, he stayed for a period on Onotoa, begetting children there and establishing a maneaba, the head clan of which was Karongoa.

Lastly from Onotoa comes the legend of the founding of another maneaba by Akau upon his arrival on Onotoa from Samoa. Not only is the head clan in this maneaba also Karongoa, but it has already been noted that Beia and Kobwebwe, the kanawa tree planters, were the children of Akau and Tira. Though it can never be said with certainty that terms such as children are to be taken literally or that the Akau in this text is of the same generation as the Akau in the Beruan legend, because fathers' names often pass to sons and grandsons, it can be stated without doubt that they all belong to the same ancestral line and hence the same clan.

Though surprisingly never stated as a fact by any Gilbertese informant, the invasion of the southern Gilbert Islands can be seen, with a minor exception to be discussed below, as a mass invasion by one group, namely the clan of Karongoa.

By tracing back the generations using a figure of twenty-five years per generation, the period of this invasion can be dated as approximately 1250 - 1275 A.D. It was

also at this time that the Maori-Rarotonga group known as the Tonga-fiti were driven from Samoa. It can be assumed therefore that the Gilbertese influx was the result of a widespread upheaval in Samoa and a part of the general scattering of Samoan-based people which occurred at this time throughout Oceania. Furthermore, through the link with Auriaria, Nareau, Au-the-skull, and his brothers, this invasionary force was in fact a people expelled from their taken homeland, Samoa, returning to an earlier homeland, the Gilbert Islands.

Before discussing the Samoan history of the Karongoa clan, a second invasionary force which was not a part of this primary group must be discussed.

From a legend of the Keaki clan collected by Grimble, it is told that the two tropic birds of Nei Tituaabine, after the breaking of the tree in Samoa, flew north.[18] The yellow-billed tropic bird went to Be beriki and the red-tailed tropic bird to Little Makin in the northern Gilberts. In the manner of most Gilbertese legends, the tropic birds refer in reality to two groups of people with the tropic birds as their totem and with Nei Tituaabine as their ancestral deity. This bird group conquered the island of Little Makin. When Nei Tituaabine arrived, she was informed by the conquered inhabitants, so the legend goes:

> "Now there are hardly any people of our land alive for the bird has well nigh eaten them all up. Cannot thou then save us from that bird of thine, for thou art indeed our mother also?"

It is apparent, reading between the lines, that not only were these tropic bird folk a cannibal people but also that they shared the same goddess, Nei Tituaabine, with their victims. The appeal by the Makin people to Tituaabine as their "mother" is this message in myth form.

Peace was brought to these two groups by Nei Tituaabine, and they were united under the leadership of Koura, who, it is remembered, sprang from the body of the dead tropic bird. Under Koura, the tropic bird people spread south to Butaritari, Abaiang, Tarawa, and Beru.

Further evidence of the underlying link between the Karongoa invaders, the tropic bird invaders, and the then inhabitants of the Gilberts comes from the history of the Karumaetoa clan, recorded on Onotoa and also evidenced by Grimble.[19] One of the inhabitants of Makin, Tewatu, refused to be subjected to Koura and fled via Tabiteuea to Matang in the west. In Matang, he eventually had a grandson, Tewatu-I-Matang, who returned to the Gilberts to the island of Beru, where he killed and ate the southern residents of the island. He was summoned to the maneaba in the far north of the island where he met the head of that group Tanentoa II. Tanentoa II was Samoan by descent and a worshiper of Tabuariki. When Tewatu-I-Matang was questioned as to his ancestry, it was discovered that he too revered Tabuariki. It was therefore declared that the two groups were kinsmen and that the cannibalistic practices should cease.

The Karongoa group, while on Samoa, were also cannibals and head-hunters. It is surmised by Grimble therefore that the apparent cessation of this practice by all groups following the invasion of the Gilberts occurred because all three groups were of common stock and linked by the common worship of Auriaria and his associated deities.

2.6 SUMMARY OF PRE-HISTORY

There were three distinct phases of Gilbertese pre-history. The first was the overthrow of and subsequent intermixing with a Nareau-Tabakea group by the fair-haired, red-skinned Auriaria folk from the western land of Matang.

Secondly came the migration and subsequent establishment of this mixed group on Samoa.

Finally, this group was evicted from Samoa and returned to the Gilbert Islands, still with the same ancestral history but now under the clan name of Karongoa. Here they again intermixed with that section of their forebears which had not undertaken the journey to Samoa but had remained in the Gilberts.

2.7 THE KARONGOA CLAN ON SAMOA

Though the Karongoa clan were also apparently head-hunters, their legends do not describe them as cannibalistic. The Karongoans, unlike the tropic bird folk, did not use the flesh of their victims as food but for ritual purposes.

The conclusion of this section on Gilbertese pre-history will deal with Grimble's thesis on the social organisation of the Karongoa clan immediately prior to their invasion of the Gilberts, and the central role which ritual had to play in this organisation.

The Little Makin text describes a place in Samoa where human heads were laid in sacrifice as offerings to the spirits. This place was Maunga-Tabu (the Sacred-Mountain), and the deities were as follows. On the top of a sacred tree growing on the slopes of the mountain lived Auriaria and, on the mountain itself, Batuku, a skull reputed to have been born from the smoking summit. The 'food' of these gods was collected from 'the west'. Further on in the account, head-hunting raids to the west and south are described. The places visited are identified by Grimble as being Futuna, Tonga, and Savage Island.[20] The heads of the victims of these raids were cut off and hung from the canoe rigging, while the bodies were merely collected and dumped in the holds of the canoes. These heads were

immediately brought to Maunga-Tabu on return to Samoa, and though the text also describes the division of the bodies among the 'people of Samoa' following the ritual offering of the heads, it is evident that the minimum of three days' travel required to return to Samoa would have rendered the bodies unsuitable for human consumption.

The canoe tufts of Karongoa carried by most of the Samoan emigrants to the Gilberts were, as previously described, memorials of Teuribaba, recognised by Karongoans as the ancestral king of the tree of Samoa. His canoe carried the crest, which was a likeness of a man's head, in memory of his favourite food. Furthermore, his canoe was called Aia-ataii-moa (the first-born). Even today, the Karongoan canoe crest used on Onotoa is called Tim-Tim-te-Rara (lit. drip-drip-the-blood) and is carried by this clan as they still regard themselves as the 'children of Teuribaba'.

Finally, it is to be noted that none of the legends concerning the invasion by the Karongoa clan contain any references to head-hunting or man-eating practices.

On the evidence it would appear, Grimble suggests, that the Karongoans while on Samoa were a tribal cult worshiping Teuribaba and Auriaria and offering sacrifices to these gods in the form of the human heads of their victims collected far away from Samoa. The scale of these raids, and the added evidence from the Little Makin text which implies that the final battle in Samoa was a return of a dispute over the social ceremony involved with this sacrifice, suggest that, again, the cult was indeed tribal. That is to say, it involved a larger number of people than a single family branch and was really composed of the collection of all those people who worshiped Auriaria and his associated deities, especially Teuribaba.

At this time throughout Polynesia there existed a widespread cult famed for its head-hunting tradition, whose chief deity

was called Rongo. The resemblance between this name and Ka-rongo-a (lit. to-make-rongo) cannot be mistaken, and it would appear that the Gilbertese clan was indeed a part of this cult, with Teuribaba as the local sacrificial god of the Rongo worshipers on Samoa.

The pre-eminence of the Karongoa clan in Gilbertese social life following the invasion, and especially in ceremonial matters and those involving war, suggests that the Karongoans were a privileged sub-group of the Rongo-Teuribaba worshipers. Moreover the sacrificial nature of the cult would suggest that the Karongoans, or selected members of that clan, were the high priests of the Rongo cult on Samoa. The social pre-eminence of the Karongoans, and the fact that they arrived in the Gilberts as a tribal rather than clan group, will become the key to explaining the changes brought to the Gilbert Islands upon their arrival from Samoa.

1 H.E. Maude, *The Evolution of the Gilbertese Boti*, Suva, 1977, p.7.

2 This account is based on information collected during fieldwork on Onotoa. Though the first informant was a native of Beru, subsequent accounts by Onotoans were identical.

3 Tungaru is the ancient Gilbertese name for their islands.

4 A.F. Grimble,'The Migrations of a Pandanus People', *Journal of the Polynesian Society*, Memoir 12(3), 1933-4, p.85.

5 *Ibid.*, p.97.

6 Matang is a land often occurring in Gilbertese myths and refers to a land in the west of the Pacific.

7 A.F. Grimble,'Myths from the Gilbert Islands', *Folklore*, 33, 1922.

8 *Ibid.*

9 A. Coates, *Western Pacific Islands*, London, 1970, p.58.

10 A.F. Grimble,'The Migrations of a Pandanus People', 12(2), p. 57.

11 Coates, *op.cit.*

12 M. Pietrusewsky, 'An Osteological View of Indigenous Populations in Oceania', *Studies in Oceanic Culture History*, ed. R. C. Green and M. Kelly, Honolulu, 1970, pp. 1-12.

13 D. S. Marshall, 'The Settlement of Polynesia', *Scientific American*, 195, 1956, pp. 58-72.

14 R. C. Green, 'A Suggested Revision of the Fijian Sequence', *Journal of the Polynesian Society*, 3, 1972, pp. 245-250.

15 V. I. Voitov and D. D. Tumarkin, 'Navigational Conditions of Sea Routes to Polynesia', *Asian and Pacific Archaeological Series*, ed. W. Solheim, 1, 1967, pp. 89-100.

16 J. Barrau, 'Agricultural History and Pre-history of Oceania', *Journal Société Océanistes*, 21, pp. 55-78.

17 A.F. Grimble,'The Migrations of a Pandanus People', 12(1), p. 21.

[18] *Ibid.*, p.72.

[19] *Ibid.*, p.109.

[20] *Ibid.*, p.62.

chapter 3

RECONSTRUCTION OF TRADITIONAL ISLAND SETTLEMENT PATTERN

3.1 INTRODUCTION

Prior to the invasion from Samoa, little is really known of the detail of settlement pattern. Each island was occupied by a number of loosely knit clan groupings, whose ancestorship and deities were linked with those of the invading clans because of their earlier co-habitation of the Gilberts. This period of co-habitation dated from the initial invasion of the Gilbert Islands by the western-based Auriaria group.

The invading Karongoa clans, arriving from Samoa, either overthrew or peacefully incorporated themselves within the existing clans on the majority of the central and southern Gilbert Islands, though everywhere maintaining their ascendancy, and frequently taking the women of the conquered clans as their wives.

The temporal sequence of the various invasions and the subsequent inter-island migrations is now impossible to reconstruct. However, it appears that it was firstly on Beru, after a couple of generations of habitation there, that the Karongoans began to restructure Gilbertese society into a new organisation with themselves as the paramount group.

From Beru this arrangement was spread throughout the group by Karongoa leaders, with the exception of only a few of the northern islands. This social restructuring held significant implications for the pattern of settlement which contained it.

3.2 ISLAND SETTLEMENT PATTERN AND SOCIAL STRUCTURE

3.2.1 The Establishment of Karongoa on Beru

The Karongoa invasionary forces led by Teimone split at Tarawa and the three brothers Tematawarebwe, Kourabi and

Buatara, led by the former, came to Beru. The island at this time was inhabited by two small clans, the descendants of Tabuariki and Nanginouati, who were themselves the descendants of Nareau, and hence of the original Gilbertese inhabitants. There was no war, and Tematawarebwe and his followers, after first landing in the south, eventually settled in the centre of the island. The territorial subdivisions agreed upon by the three groups were named Tabiang (land of the north), Nuka (land of the centre), and Tabqiaki (land of the south).

For two generations of gradually increasing population, this arrangement was maintained, the three groups intermarrying. The leaders and associated elders of each of the three clans shared a meeting house, of the type referred to as the uma-ni-mane (men's house) and called Te Matie. Evidently this structure was in use prior to the arrival of Tematawarebwe but its precise location is not known. The building was reputedly only a centre for social functions involving the resident clans.

3.2.2 The Gilbertese Clan

At this stage of Gilbertese history, it is evident that the clan was one of the major social groupings in their society. Membership of the clan was based on descent and was reckoned patrilineally. There being no Gilbertese equivalent to the English terminology 'clan', the groups formed on this principle were referred to by the name of the original deity or ancestor with which they were associated, e.g. Karongoa, Tabuariki, and Nanginouati.

A patrilineal descent structure is a unilineal structure, that is, where descent is traced through a single line, either male or female, from a single ancestor. Thus a patrilineal structure traces descent through the male line. See figure 1.

There are a number of consequences of this system which follow from a recognition of the difference between a conceptual and an actual social group.

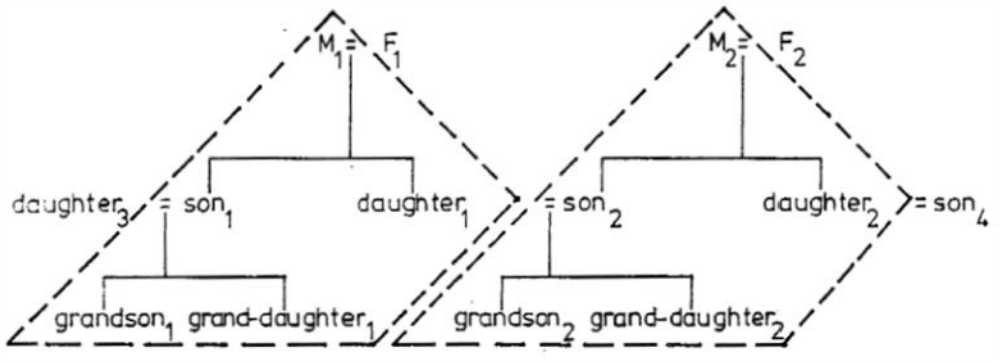


FIGURE 1

Firstly it is evident that the clan extends through both space and time to an extent where it would be impossible for the total complement of the clan to be together at the one time or place. It is composed of members long since dead or territorially far removed. It must therefore be considered as a conceptual unit and not a functioning social group.

Because of this, most clans throughout all cultures which use this system typically revere a single god, or elevate the original ancestor to such a status, and frequently share an attachment to a common symbol or totem. Through these unifying agents, individuals can identify the common bond which exists between them, even though the details of their common ancestry and the lateral separation of their kin relationship may be lost or so distant that they would otherwise appear to each other as strangers.

This factor would appear of particular importance in the Gilbert Islands where the opportunity for even the living members of a clan to come together would be so physically difficult to achieve because of the number and separation of the many atolls which make up the Group. The Gilbertese

clans were thus typical in their attachment to god-ancestors and totems and did in fact use these symbols for identification. Witness for example the occasion when the recognition of the common totem of the invading Karongoa and associated Samoan clans and the then resident clans in the Gilberts was responsible for the resolution of the conflict which had existed between them.[1]

The second consequence of this system, realising that the Gilbert clans were exogamous (nobody could marry a member of his own clan), was that it was not possible to form a territorial unit on the basis of clan membership without precluding the possibility of the formation of the basic territorial unit, the nuclear family. This was so, for in an exogamous patrilineal clan structure, a man's wife (and affines) are always of another clan, and similarly a man's parents are always of different clans.

3.2.3 The Gilbertese Lineage

Because of the obvious desirability in most simpler cultures of forming co-operating closely knit groups where individuals can always rely on the support of the group for vital activities such as fishing, agriculture, and defence, dispersed clan systems are usually divided into lineages. The basis of descent is that of the clan, but, in addition, the members of a lineage are aware of the genealogical ties between them.

Once the Karongoa clan spread throughout the Gilberts, each of the sub-groups of that clan should best be regarded as lineages, as indeed should the other groups which co-existed with the Karongoans on most of the southern islands.

A lineage, as opposed to a clan, is a relative and situational rather than absolute group, because its basis for organisation is common ancestry. Thus, except for the

smallest and largest segments, any lineage will at the same time be part of a larger lineage and subdividable into lesser lineages. For example, the lineage headed by ego's grandfather contains the lesser lineage headed by ego's father and brothers, whilst at the same time is itself contained within the larger lineage headed by ego's great-grandfather. See figure 2.

The operative lineage to which an individual would claim membership at a particular time would thus depend upon the type of social situation in which that individual was involved and his kin relationship with the other individuals also involved.

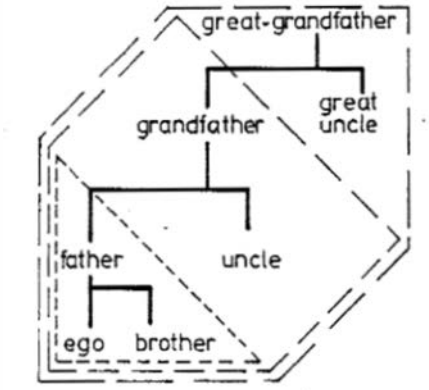


FIGURE 2

The settlement pattern of the southern Gilbert Islands immediately following the Samoan invasion was based on such an organisation of society, that is into maximal lineages. The living head of a lineage and all his patrilineal kin occupied a single tract of land as a co-operative unit. All the members of that residential grouping were also of course members of the same clan, but the principle of residential affiliation was the concept of lineage. The only exception was in the case of women, marriage being forbidden between members of the same clan. Thus each residential lineage unit contained women who were both of different lineage and clan.

A second characteristic of unilineal descent systems is their tendency to fragment, a process generally termed fission. Because one of the principles on which lineages are based is the idea of a co-operative social unit, it is evident that under given ecological conditions there will exist an approximate maximum limit to the possible size of a lineage beyond which corporate activity becomes difficult to maintain. Apart from other external causes (disagreements, emigrations and immigrations, war), there exists an internal characteristic of the system which causes it to segment, and new lineages to form. Such segments may of course, in special circumstances, 're-fuse', for instance in the event of large-scale hostilities. But they generally form distinct independent (usually territorial) groups existing apart from the parent lineage, with the new leaders acquiring an ancestral identity not usually possessed by the various segmental heads of the sub-groups of the parental lineage.

It was under these circumstances of population pressure within the lineage land tracts, and the wife anomaly, that the Karongoa lineage headed by Tematawarebwe began to institute the major changes to the structure of the Gilbertese society which were soon after to become its characteristic. This however is not to imply that the changes were conceived by the Karongoans as solutions to these social problems. In fact it is certain, as the ensuing argument will show, that the Karongoa group were merely reviving, in principle, the social structure which they possessed in Samoa. However, it is notable that the modifications which they introduced both allowed the recognised and ordered fission and fusion of the unilineal descent groups, and resolved the anomaly of the residential but non-lineage wife.

3.2.4 The Construction of the First Maneaba (Meeting House)

The following is the legend of the founding of the first

maneaba as described by informants on Onotoa. See figure 3.

> "By the time Tematawarebwe's grandson Ten Teweia had come of age all three groups, Tematawarebwe, Tabuariki, and Nanginouati had had children and the Meeting House called Te Matie had become too small. Teweia was sent by this grandfather to Samoa to collect the timbers of the maneaba which they had occupied prior to their migration to Beru. The edifice was still standing when Teweia arrived in Samoa and he collected all timbers and placed them in the ocean from where they were carried by the current until they reached Beru. They were washed ashore on Beru at the beach of the northern territory Tabiang. The residents of this settlement tried to collect the timbers, but, being unable to lift them, they left them to lie on the beach. Meanwhile Teweia returned from Samoa and informed his family that his work was complete. Teweia's famiy lived at Nuka. All the residents went north and carried the timbers without effort back to Nuka. Then Teweia built the first maneaba in the Gilberts exactly as the maneaba had been on Samoa. It was called Tabontebike (Place on the Beach) after the name of the land on which it stood. The old men left the uma-ni-mane and went to dwell in the maneaba."

Though there may in fact be some truth in the bringing of the timbers from Samoa, there are more important meanings to be extracted from this legend than are revealed on the surface.

Firstly, the 'bringing of the timbers' symbolises the link with Samoa and the ancestral homeland, Samoa now being regarded as the home of the Kai-n-tiku-aba and synonymous with Matang, the land to the west. Secondly, the 'bringing of the timbers' and the exact reconstruction of the Samoan edifice imply, as will be seen below, not so much the literal reconstruction of the physical building as the reconstruction of the social system (of which the building was the physical expression) as it existed on Samoa, and the position of supremacy which Karongoa held in this system. This latter point is restressed in the inability of the people of Tabiang to lift the timbers from the beach. This is typical of the general mythological theme of divine right being expressed through the ability to perform a seemingly

simple task which in fact none but the chosen can actually perform.

Thus with Teweia begins the tradition of maneaba building in the Gilberts, the allocation of names to these edifices, and the association of the building with its founder.

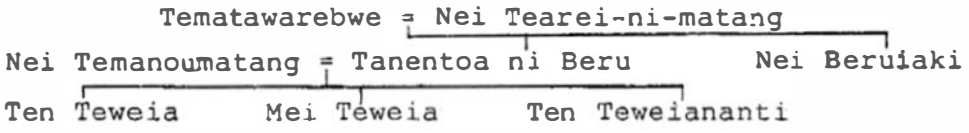


FIGURE 3

3.2.5 The Formation of the Boti

More important than the account of the actual construction of the maneaba are the final sentences of the Onotoan account.

> "The old men left the uma-ni-mane and went to dwell in the maneaba. At the north end of the maneaba from east to west lived Tematawarebwe, and his inaki was called Teakiamuma. On the east side of the maneaba from north to south lived Tabuariki and his inaki was called Te Bakoa. At the south end of the maneaba, lying from east to west, lived Nanginouati and his inaki was called Te Nguingui. The dwelling places were decided truly by Tematawarebwe himself."
> See figure 4.

Co-incident with the allocation of a position in the maneaba went the allocation of lands wherein the members of the maneaba groups lived. The position in the maneaba was conceptually denoted by the terminology boti, and physically denoted by the terminology of inaki. The inaki is literally the space of a single span of thatch, approximately the same distance as a full arms' stretch. The space allocated to a boti was frequently demarcated in terms of the inaki above it, hence the use of the term as a synonym for boti.

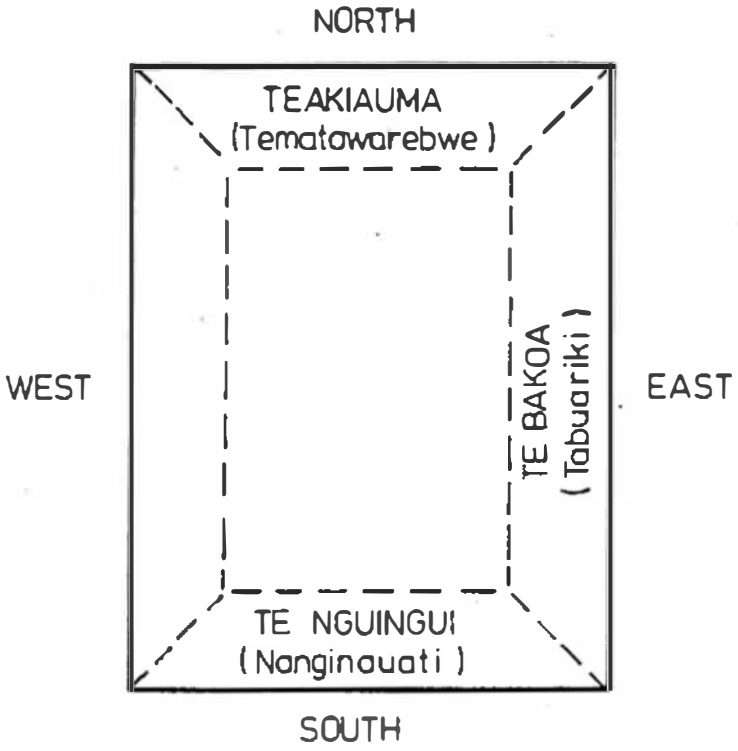


FIGURE 4

Over the next couple of generations, as the Karongoa group established its position on the various southern islands, this type of maneaba was introduced and the local lineages were allocated their boti and land-holdings.

3.2.6 The Concept of Boti

The introduction of specific seating areas within the maneaba and the residential land tracts allied to them was thus, importantly, the introduction of a new social structure. The important distinction from what has been termed a lineage structure, which existed for the first couple of generations after the invasion, was that the new social group included the wives of the male boti members. Descent was still reckoned patrilineally, and marriage between boti members was forbidden, but upon marriage a woman left the boti of her parents and became a member of her new husband's

boti.[2] Even at this early stage, the introduction of the boti had a number of important effects on island settlement pattern.

Firstly it brought with it the maneaba edifice, itself a new element in the settlement pattern. There being no villages in existence, maneaba became the focal points of the districts and the first publicly owned spaces, including both the interior of the maneaba (inanon te maneaba) and its surrounds (te marae). The public assembly of the total island community could thus take place, not on a particular group's land tract, but on everyman's land. The maneaba also operated as a focal point in that all visitors to the island were required to make their initial landing at this point. The vacant sitting place on the western length of the Tabontebike maneaba illustrates this point. It is the boti of the stranger and the visitor, where he must take his place upon arrival on the island, and where he must establish his bonafides before proceeding to the home of his relatives. This is no doubt one of the reasons for the invariable siting of the maneaba on the western lagoon shore, for arrivals by canoe must be made via the lagoon. Arrival on the eastern shore is made impossible by the dangerous surf and reef platform which extends on average some hundred metres out from the ocean beach front proper and along its entire length.

Secondly, the introduction of the boti structure influenced the pattern of land-holding and residence. It has been noted that the allocation of seating places in the maneaba was allied to a corresponding allocation of a boti land-holding, decided by the maneaba founder. The boti territories are known as kainga and are best described as ancestral estates.

3.2.7 Kainga

Tematawarebwe's division of Tabontebike into the three boti, Teakiauma, Te Nguingui, and Te Bakoa, was associated with the allocation of estates bearing the same names. All other lands were known as buakonikai (bush lands) and were individually owned and inherited under another system yet to be described.

The kainga was the home of all the members of the associated boti and held a great deal of symbolic importance because of this fact. The land was the corporate possession of the boti, although usage of it was dictated by the atu-n-te kainga (head of the kainga) who was in fact always also the atu-n-te boti (head of the boti).

Normally the kainga was a strip of land running the full width of the atoll, and occasionally extended to include beach and sea territory. Collectively, the kainga formed the major feature of island settlement pattern, Gilbertese settlement structure being one of isolated clan hamlets rather than a village arrangement.

Finally, the boti organisation introduced by the Karongoans affected the land-usage pattern of the island as a whole. Because boti ownership of lands did not extend to buakonikai lands, which composed the greater proportion of actual land area, the boti system did not affect agricultural patterns at an island scale. However, the system was vitally connected with the use of fishing ponds and fishing rights. The nei (fish ponds) were naturally formed ponds or small interior lagoons. Ownership of the ponds was vested in the boti, the larger ponds sometimes being owned by more than one boti, and even, in later times, by boti from separate maneaba.

On Beru, Tematawarebwe first landed and camped beside the large pond of Nei Tabuariki, owned by the clan of the same

name. After he met the leaders of that clan, the pond was divided in two, the southern half going to Tematawarebwe. After the first division of boti in the maneaba, this arrangement was maintained, Te Bakoa and Teakiauma becoming the owner boti of Nei Tabuariki.

Of considerably greater economic importance than the nei were the fishing rights around lagoon and reef areas, the subdivisions becoming more complex and well-guarded as the number of boti increased. Certainly, in Tematawarebwe's time, Te Bakoa owned rights to a large proportion of the lagoon in front of Tabontebike, and Teakiauma the reef and deep sea areas at the southern tip of Beru.[3] Division was based on the contours of the lagoon floor and the various channels and reefs where marine life (especially turtles, eels, octopuses, and clams) was plentiful. The exposed reef platform between high and low water mark was generally a public domain scoured by the women for shell-fish and worms. Deep sea clan rights also existed, particularly on the reef islands where there was no lagoon. On these islands, clan rights, frequently extensions of the land-based kainga, extended far out to sea.

Line fishing from canoes was only prohibited in areas belonging to other boti if special rabu (tabu signs) were erected at the boundaries of the area (e.g. at special times of the year where fish were seasonal occupants), but organised net fishing was always limited to boti areas.

3.2.8 Summary

Figure 5 presents a diagrammatic summary of the basic settlement pattern at this early period of history, for a typical southern island based on the Beru model.

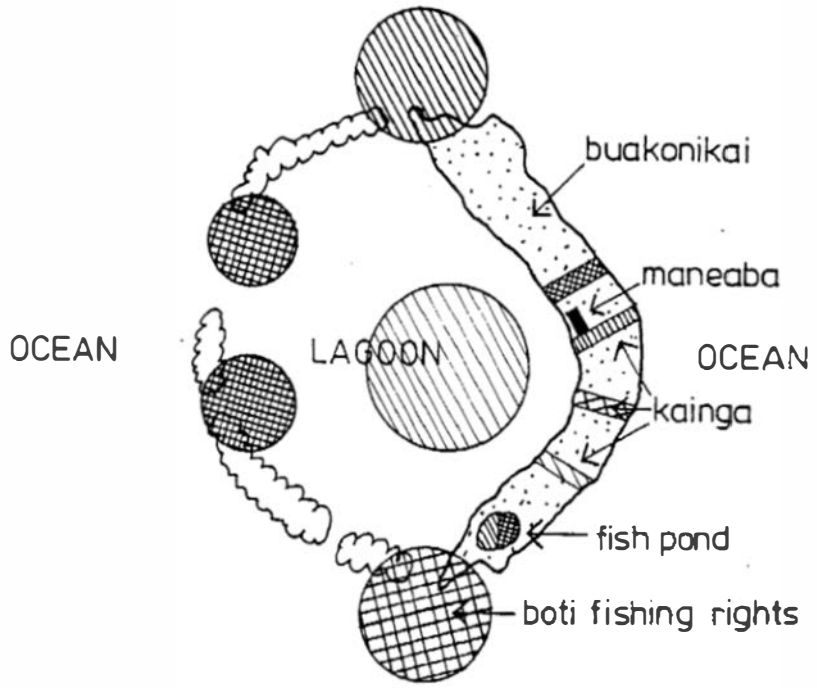
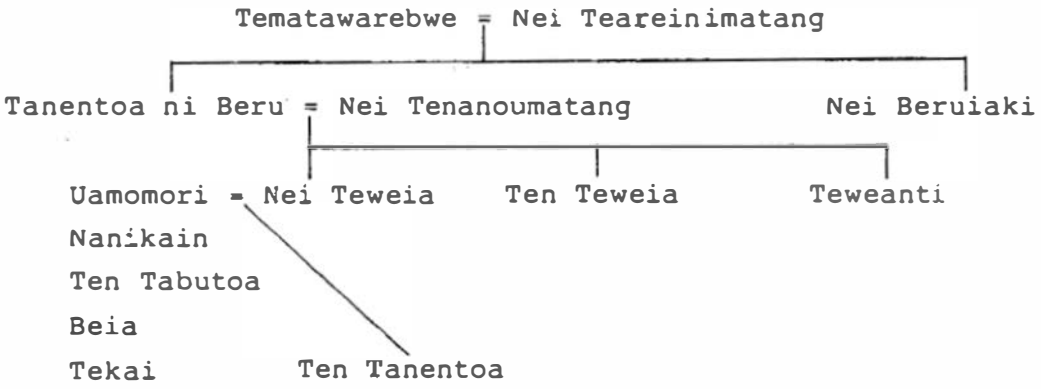


FIGURE 5

3.2.9 Settlement Pattern and the Evolution of the Boti

At this stage of Gilbertese history, a warfaring group led by a man named Koura, a descendant of the Tropic-Bird clan, arrived from Beberiki, and landed on Beru at Tabiang in the north. He eventually moved to Aoniman erecting his own maneaba Maungatabu and establishing himself as overlord of the island. In his maneaba he sat as Uea-ni-Beru (chief of Beru) on a raised throne platform hanging from the roof. Though Tematawarebwe and his boti members were, in theory, the head boti on Beru, all men remained

free. The tyrannical rule of Koura was not the custom of the descendants of Tematawarebwe. Eventually they sent two of their group, Tematana and Uomatana, to recall one of the famed warriors and leaders of the Karongoa clan, Ten Tanentoa, who was at that time living on Nonouti. Ten Tanentoa, one of the most famous of all the Gilbertese ancestors, was in fact the great-great-grandson of the now deceased Tematawarebwe. See genealogy below.



Ten Tanentoa was not, however, a member of the Teakiauma boti, his connection with Tematawarebwe being through his mother. The Onotoan legend recounts that Tanentoa did not actually fight Koura, but in fact killed a child of Koura's whom he found playing on the beach at Aoniman. This act caused Koura to flee, knowing that Tanentoa had arrived. In any event, Koura fled and his maneaba Maungatabu was burnt to the ground.

In gratitude for this action, Ten Tanentoa was made high chief of the island, a position carrying with it the headship of the Teakiauma boti which at the time belonged to Tanentoa's uncle, Teweia, the original builder of Tabontebike. The reality of the situation following this appointment is difficult to reconstruct. According to legend:

> 'Before Tanentoa entered the maneaba, the news had long since been published abroad that the inaki of maneaba were about to be completed by him. As a

> consequence there came to Beru from other islands, and from other parts of Beru itself, all those who desired to get their inaki in the maneaba...."[4]

To just what extent the leaders of all the various sub-groups were represented at this event is difficult to tell. In any case, following this sub-division, all the Tabontebike-type maneaba conformed to the new pattern composed by Tanentoa with any difference invariably able to be explained on historical grounds.[5]

The following is an abbreviated account of the division of the boti.[6] See also figure 6.

1. Tenantoa renamed his new boti Karongoa. Teweia, the previous head of the boti, was allocated a new boti and the Karongoa land Taunamo. A portion of this land, Rautetea, later became the kainga of this group and their boti took the same name.

2. Bakoa was confined to the northern half of the eastern side of the maneaba from Te Kokonga north.

3. A man, Kotua, arrived from Tarawa and was allocated the boti Te Kokonga and the kainga of the same name.

4. Te Kiatau was living on Beru but without a boti. He was allocated the boti of Taurakawa and the kainga Baurua.

5. The descendants of Nei Moa Aine, an ancestral goddess from Samoa, were allocated the boti of Bakarawa and the kainga Nei Koekoe.

6. When Koura was defeated by Tanentoa, he fled to Nikunau. When he heard of Tanentoa's partition, he (or his son, according to a different legend)

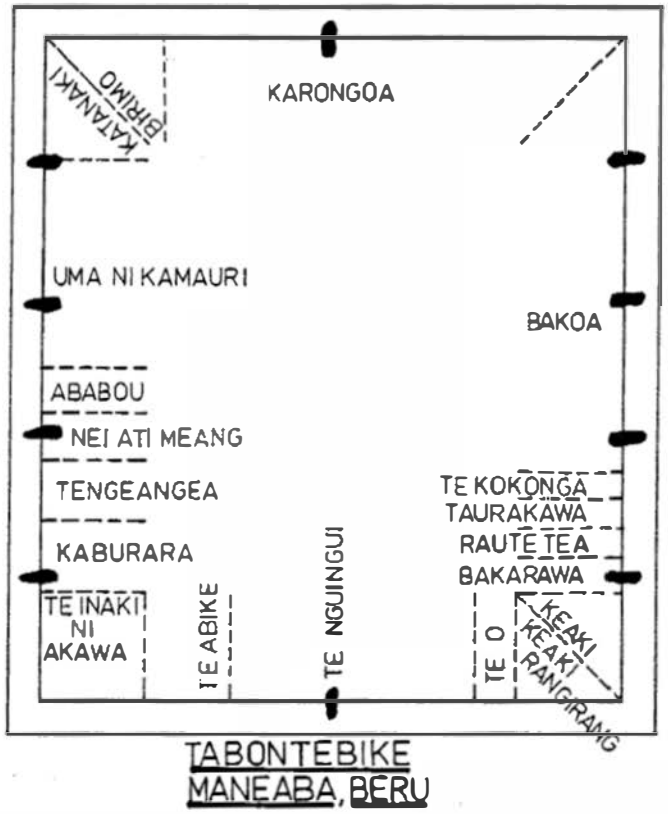


FIGURE 6

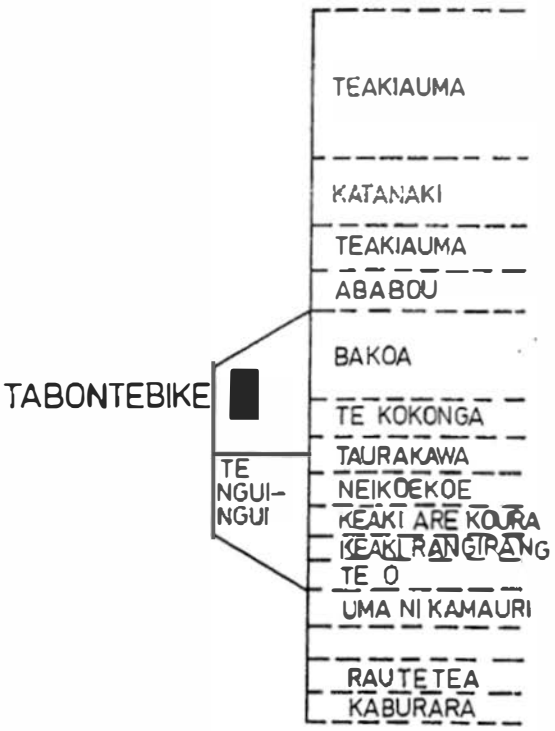


FIGURE 7

changed his name to Tabanga and returned to Beru. He was reintroduced to the maneaba by a member of Bakarawa and was allocated a part of their boti re-named Keaki and the kainga Keaki-are-Koura.

7. Uakeia, the son of Taboneaba and Betio, both from the north, was living on Beru after his parents' migration there. He was allocated the boti Te O and the kainga of the same name.

8. Kabau was allocated part of the Keaki boti, and though the two groups were not related, the new boti was called Keaki-Rangirang or alternatively Keaki-Teangabai. The kainga, also originally Keaki territory, bore the same name.

9. Teimone, who came with Tematawarebwe from Samoa, at some time married into the Nanginouati group who inhabited Beru prior to the Samoan invasion. Their boti Te Nguingui, one of the original, was restricted between Te O and Te Abike.

10. A group headed by Tewatu-ni-matang was allocated the boti Te Abike. Their kainga was Te Kaitibong.

11. Te Mamang-anti, who was a companion of Tematawarebwe, was directed to live at the southern end of Beru at Te Angauma to look after the Karongoa fishing rights there. This group was allocated the boti Te Inaki-n-Akawa (the inaki-of-fishing) and Te Angauma became their kainga.

12. A group who travelled with Koura from Butaritari led by Emuta and Neui, and related to the Keaki group, were allocated Kaburara and the kainga of the same name.

13. The two boti Tengeangea and Nei Ati-meang were both descendants of Tabuaekia and Te Kai (from Samoa).

Their kainga carried the same name.

14. The boti to the north of Nei Ati-meang was originally allocated to Tabeauaua and named after him. When Bue and Rirongo arrived from Tarawa they were given his boti and it was renamed Ababou. With it went the kainga Bareaka.

15. Uma-ni-Kamauri was allocated to the followers of Auriaria, also from Samoa. Their kainga carried the same name.

16. Katanraki was allocated to the descendants of Nei Temaiti who were from Samoa. Their kainga was also called Katanraki.

17. Birimo was allocated to the descendants of Kameang, a legendary ancestor said to have been resident with Tabuariki on the first settlement of Beru. Their kainga bore the same name.

The relative positions of these kainga are given in figure 7.

The Beru partition has been quoted in detail because of its fame and the importance of this division in terms of Gilbertese settlement pattern. It exists as a model of this pattern as it developed throughout the southern Gilberts from this time onward.

As far as Karongoa was concerned, the partition represents the final establishment of the boti system in the Gilbert Islands. The desire of all the ancient lineages which had occupied the Gilbert Islands prior to the arrival of the Karongoa group to take up a boti in the maneaba indicates their acceptance of Karongoa as the head group.

In fact, other groups such as that led by Koura had established maneaba on the islands they had conquered. In such cases the Karongoa clan often did not even have a boti within the maneaba. The principle however remained the same with all the resident clans or lineages having their boti within the maneaba and a corresponding residential kainga. The fact that the other Samoan invaders established this same social structure lends support to the thesis that this system was in fact that under which the Samoan groups operated prior to their invasion of the Gilberts.

Whereas in Tematawarebwe's time the island settlement pattern was only a loose arrangement of a few kainga, after Tanentoa's celebrated partition, and corresponding partitions throughout the other islands, all the clan groups and their land-holdings had become formally recognised. In effect this meant that most of the land on the islands had been accounted for, either as kainga sites or buakonikai land owned by the various kainga residents. Future alterations to the settlement pattern, as will be seen in the following section, generally took place as sub-divisions within the then existing boundaries.

From this time onward, new boti were formed as a result of two main processes, fission and conquest.

The fission of boti was a direct consequence of the two factors of population pressure and boti exogamy. It was always desirable to maintain residence on the kainga. However, as the boti population gradually increased, it was no longer possible to support the large population and frequently a sub-group set up residence on one of the buakonikai lands owned by the family which headed the boti. These residential plots were termed kawa, and the residents maintained their kainga and boti affiliations. Frequently, however, especially if the group was one of the more prominent amongst the community, then a boti and kainga could

be allocated to the group, providing they had the approval of the head of the boti which they were leaving. Alternatively, segments of boti could be sent to maintain boti lands which were far away from the residential kainga, even on other islands.[7] Such groups could also achieve the independent status of being given a boti of their own. The space allocated to new boti so formed was always a section of that held by the 'parental' boti within the maneaba, and, likewise, kainga estates were sections of already existent boti estates. The fission of the boti Karongoa in Tabontebike is a typical illustration of this process.[8]

Originally owned by Tematawarebwe, the boti extended the entire length of the northern side. Early in its history, several inaki from the western end were allocated to Tematawarebwe's brother Buatara, the new boti being Kaotirama. Its kainga was also called Kaotirama and lay immediately to the north of Teakiauma and was thus no doubt a part of the original estate.

Tanentoa had three sons, the eldest of whom, Tenai, as first born, became head of his father's boti. The second son Ubaitoi died without issue but the younger son Tokia was given a boti immediately to the east of centre of Karongoa, as it was then called, which was named Uman Taburimai. The kainga of the same name was also previously a kawa of the Karongoa boti.

Subsequently Teinai allocated the eastern end of Karongoa to Matanuea, the son of his third wife. This boti was Katanrake (lit. make-to-go-to-the-east) and the kainga was the eastern portion of Tanentoa's kainga.

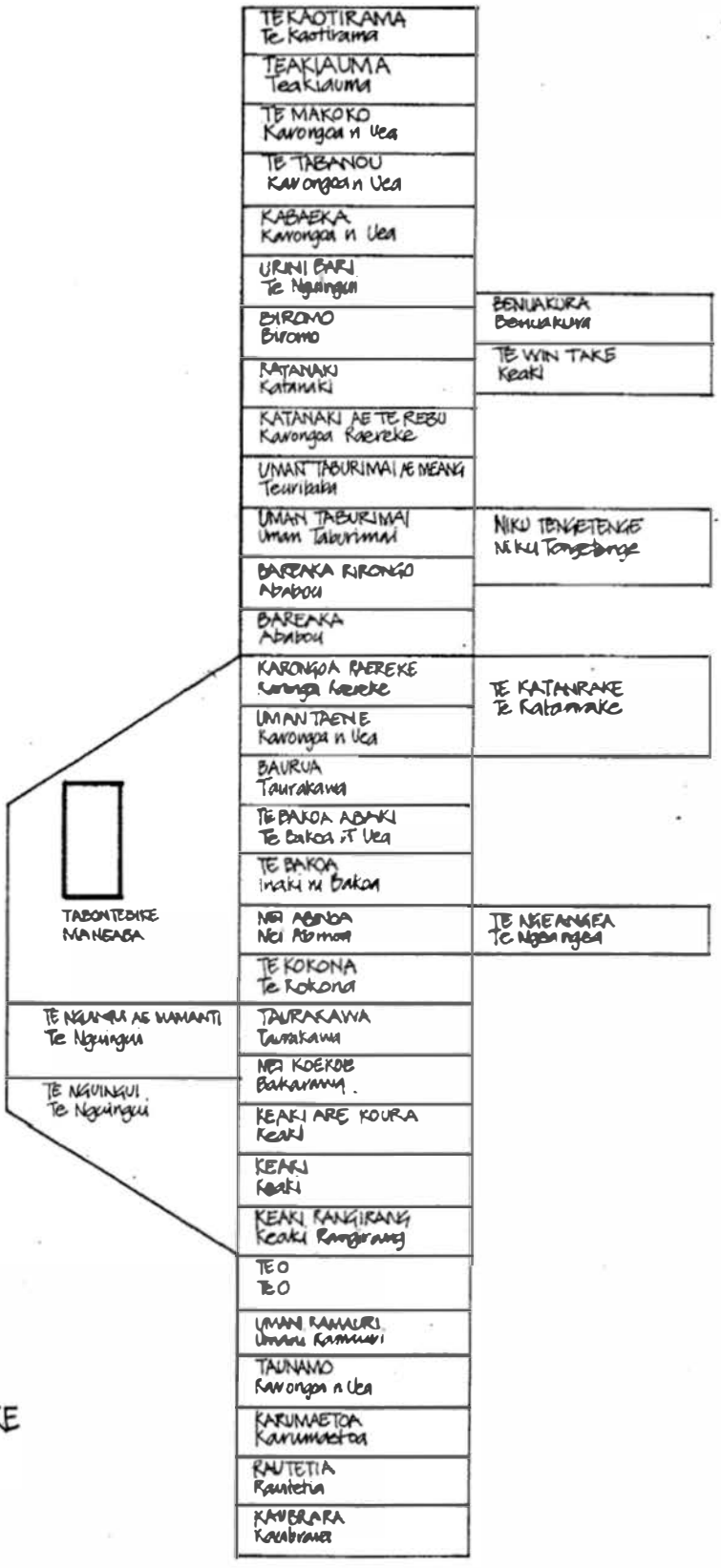
In the next generation, Teinai's son Akau II created a new boti Karongoa Raereke which was positioned between Uman Taburimai and Te Katanrake. Whilst maintaining his own boti, Akau II gave this boti to his son by his second

wife Baibuke. Finally, Akau II's son by his first wife, Teinai II, divided his own boti Karongoa between his three sons. Akau-te-Korotatae and Teuribaba shared the new boti Teuribaba and the kainga Uman Taburimai-ae-meang (the north of Taburimai), a section of the older kainga. Teinai II's eldest son retained the remainder of the Karongoa boti but under the new name of Karongoa-n-Uea.

Typically it was the founding boti, and consequently the holders of the largest inaki in the maneaba and the largest land-holdings on the island, who were able to make these divisions. The lesser boti, and indeed the major boti after a period of sub-division, had to be content with the establishment of kawa to cope with population increase and diversification of land-holdings.

Inter-island and civil warfare also led to the creation of new boti. As would be expected, the fighting was between boti of different factions. Where a boti, or section of a boti, wished to extend its territory and migrated to another island where they already had boti-holdings, assimilation would be natural if not obligatory. But where they were not represented, warfare and victory for the invaders usually resulted in a complete or partial redistribution of land-holdings, including the establishment of the new kainga and boti positions within the maneaba. In fact, Tanentoa's partition of Tabontebike is a typical case, though on an unusually large scale, of the formation of kainga and boti by conquest.

The final arrangement of boti as they existed in Tabontebike from about 1650 and have remained until the present day is illustrated, most of the changes from Tanentoa's time being due to boti fission.[9] See figures 8 and 9.[10]



KAINGA AT TABONTEBIKE
MANEABA, BERU

FIGURE 8

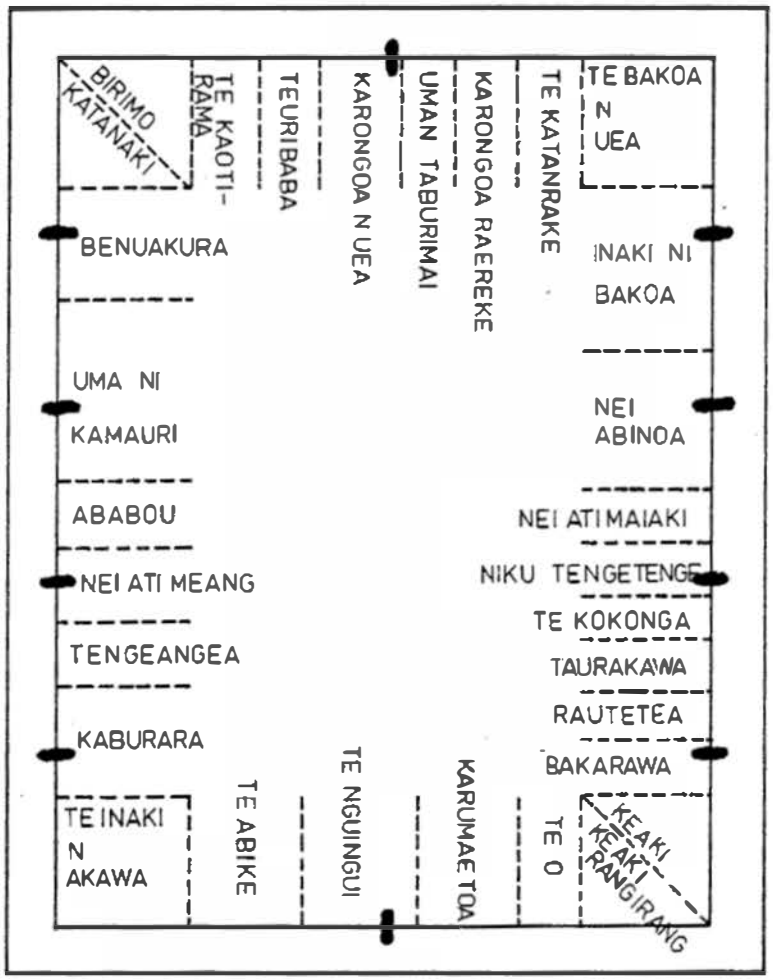


FIGURE 9

3.2.10 Settlement Pattern and Social Structure: Onotoa

The explanation of the development of social structure and settlement pattern was historically based. The events and conditions which composed this history centred on the Karongoa group and the island of Beru to an extent where any explanation of the situation on Onotoa would be impossible to give without this background.

Though the island is divided geographically into three by two ocean passages, the impact of the Samoan invasion mainly concerned the northernmost islet. See figure 10.

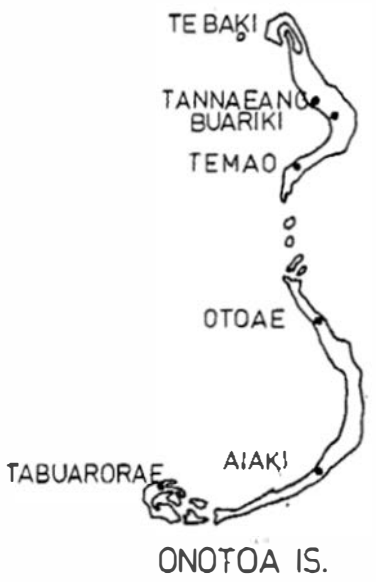
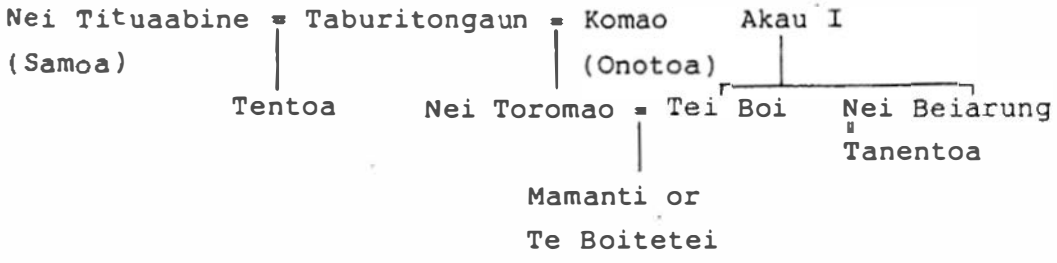


FIGURE 10

This islet was invaded, almost certainly at different times, by two separate Karongoa groups. The first of these was a group led by Taburitongaun who arrived via Nikunau from Samoa after the breaking of the Kai-n-tiku-aba. He landed at Buariki and established a maneaba there, called Te Atunuea (King's Head), and took as his wife the woman Komao from the district known as Temao. See genealogy following.



Taburitongaun is reported to have allocated the boti in this maneaba himself, and, according to informants from the head boti of the maneaba, to the same plan as exists today. It appears possible that this may have been the case (with the possible exception of a few boti) when, considering that this is a Tabontebike-style maneaba, none of the boti have the same names as those in Tabontebike itself.[11] Most maneaba built after Tanentoa's partition tend to correlate more closely with his boti division. Taburitongaun however was of the generation previous to Tanentoa, and, coming from Nikunau and no doubt incorporating influences from there, his maneaba is really a modified Tabontebike-type maneaba. See figure 11.

After a period, Taburitongaun left Onotoa to return to Nikunau, leaving his boti Buariki to his daughter Toromao, and led in her name by her husband Te Boi. Te Boi was in fact Tanentoa's ai-tarina (brother-in-law). See genealogy above. At this stage, therefore, the Buariki boti was not in fact led by Taburitongaun-Karongoa stock, except in name.

The following decades involved two takeover attempts by Karongoa leaders, the first by Tentoa. Tentoa was the son of Taburitongaun by his Samoan wife Nei Tituaabine, and, because of this, claimed leadership of the Buariki boti when he arrived on Onotoa. Legend states that he returned briefly to Samoa to strengthen his battle prowess, but in any event he defeated and killed Te Boi and took over the Buariki boti. On hearing of this, Tanentoa sent his son Teinai to revenge his brother-in-law's death, but he too was killed at the hand of Tentoa, or, as he was known after his return from Samoa, Ten Toakakang.

In spite of this, Toromao and Te Boi's son Mamanti who was not yet born at the time of Te Boi's death eventually took over Buariki, and his descendants have since then sat in the ruling Karongoa boti of Buariki. Mamanti took

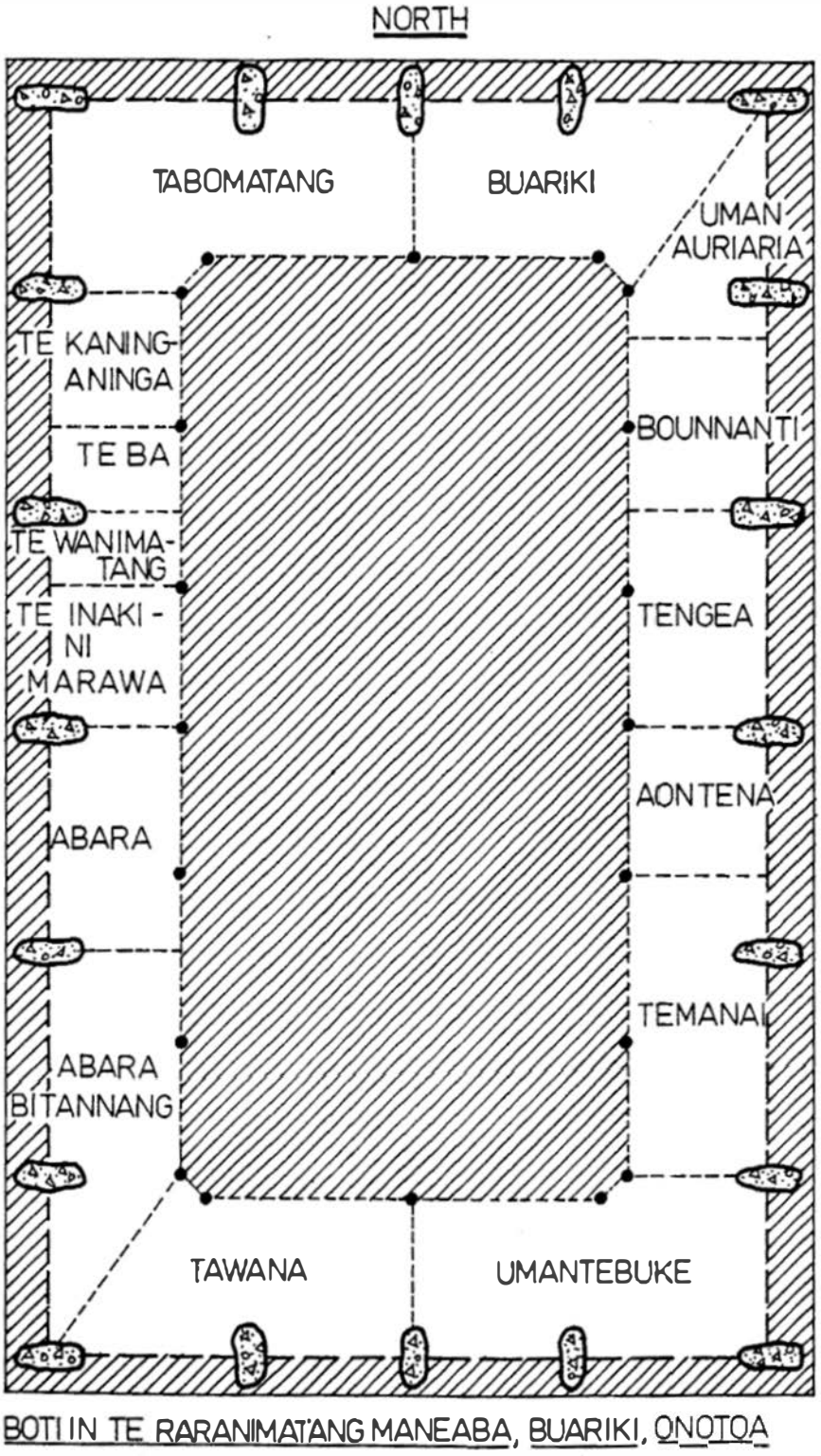

NORTH
TABOMATANG
BUARIKI
UMAN AURIARIA
TE KANING-ANINGA
TE BA
TE WANIMA-TANG
TE INAKI - NI MARAWA
ABARA
ABARA BITANNANG
BOUNNANTI
TENGEA
AONTENA
TEMANAI
TAWANA
UMANTEBUKE
BOTI IN TE RARANIMATANG MANEABA, BUARIKI, ONOTOA

FIGURE 11

as his wife a virgin, Nei Mweroa, a girl from a canoe sailed by Kobare. The breaking of her virginity, when her marriage to Mamanti was consummated gave the maneaba its new name, Te Rara-ni-Matang (lit. foreigner's blood).

The Buariki boti therefore, despite its name, has always been a Karongoa boti, hence the relation of the Buariki maneaba to Tabontebike. Informants from other boti have added that two boti, Umanauriaria and Te Bouannanti, were originally the one boti, Te Bakoa, which occupied the entire north-eastern side of the maneaba. Furthermore, Buariki, Umantebuke, and Te Bakoa were apparently the founding boti within the maneaba, a fact which is corroborated by the ceremonial speaking order within the maneaba, the speaking order generally reflecting the order of inclusion on the boti. Lastly, the boti Te Inaki-ni-marawa (lit. the inaki-of-the-ocean) is in fact the visitors' boti, and hence the same as Ababou in Tabontebike. The boti Tabomatang was created following the fission of the Buariki boti, and is therefore also a Karongoa boti.

The hypothesised original layout of Te Atunuea maneaba of Taburitongaun thus bears a considerable similarity to the original Tabontebike maneaba. See figure 13.

The layout of kainga and their associated boti is given in figure 12. Other named lands are kawa and buakonikai lands. No indication of size is given, only relative positions. Before discussing the second invasion of Onotoa by the Karongoans, which also concerned the northern island, the settlement of the southern islands should be mentioned.

When Taburitongaun conquered Buariki he was apparently contained by the people to the north. However, he extended his influence far to the south, taking and claiming the entire central island, which at that time was almost uninhabited. The southernmost island was ruled by a man, Naou, of whom little is known, but he was apparently left undis-

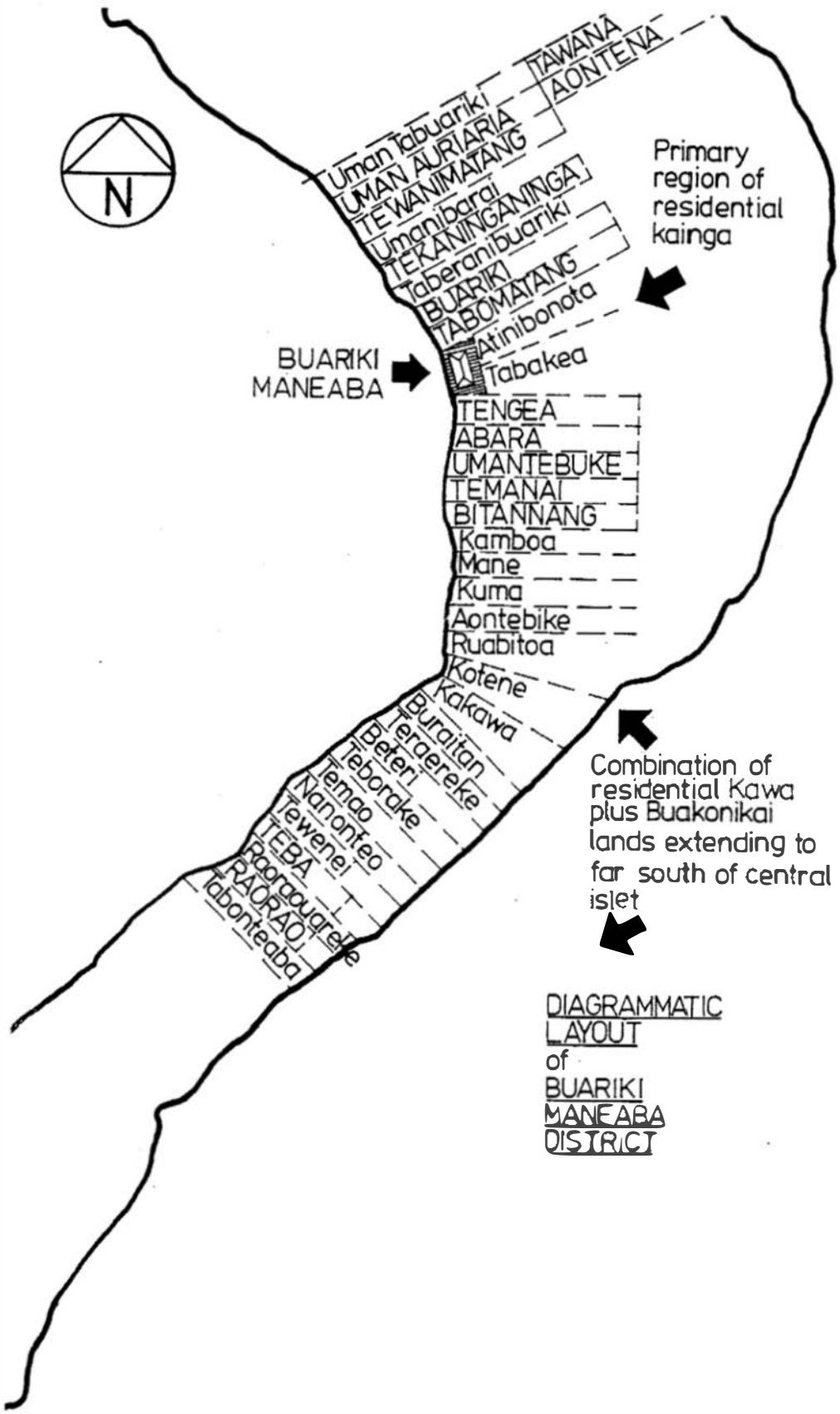

N
Uman Tabuariki
UMAN AURIARIA
TEWANIMATANG
Umanibarai
TEKANINGANINGA
Taberanibuariki
BUARIKI
TABOMATANG
Atinibonota
Tabakea
TAWANA
AONTENA
Primary region of residential kainga
BUARIKI MANEABA
TENGEA
ABARA
UMANTEBUKE
TEMANAI
BITANNANG
Kamboa
Mane
Kuma
Aontebike
Ruabitoa
Kotene
Kakawa
Buraitan
Teraereke
Beteri
Teborake
Temao
Nanonteo
Tewenei
TEBA
Raoraougarake
RAORAO
Tabonteaba
Combination of residential Kawa plus Buakonikai lands extending to far south of central islet
DIAGRAMMATIC LAYOUT of BUARIKI MANEABA DISTRICT

FIGURE 12

turbed by the invaders. As the population of the central island increased, a maneaba was built at Aiaki using the left-over timbers from Te Raranimatang at Buariki, and in more recent times another at Otoae. Both these maneaba were exact reconstructions of Te Raranimatang and had the same boti layout.

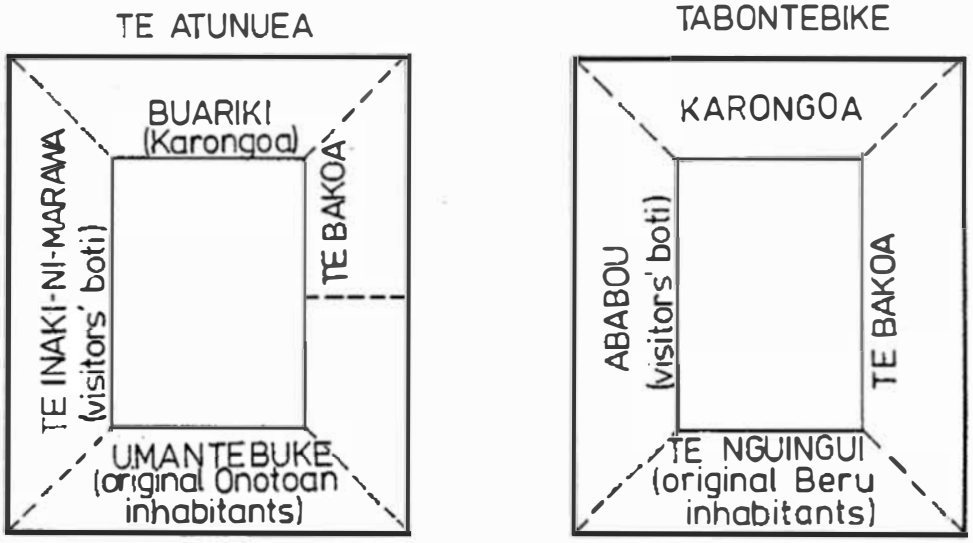
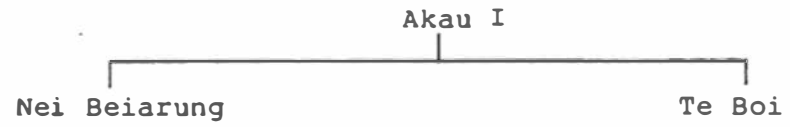


FIGURE 13

The various legends concerning the invasion of the northern islet by the second Karongoa group are somewhat confusing. Sources outside Tan aeang indicate that Ten Tanentoa, after leaving Nonouti and Tabiteuea, lived on Onotoa for a period, during which time his son Teinai was born, and the maneaba Tokamouea was built. The head of Karongoa now living in Tannaeang insists that the maneaba was first built by Akau who came to Onotoa directly from Samoa. This group first stayed on Tebaki, and then later moved to Maeura where they eventually settled and built the maneaba. Akau's preliminary partition included only four boti. According to the Onotoan Karongoans, it was with the later arrival of Tanentoa that the maneaba partition was completed, to the arrangement which exists today. A review of the genealogies of these two men makes the situation somewhat clear-

er. Firstly Akau I is reported to have left Onotoa for Tabiteuea after completing the maneaba. On Tabiteuea he had two children. See genealogy below.



It is also known that Tanentoa, en route from Nonouti to Beru to rid the island of Koura, stopped first at Tabiteuea where he took Nei Beirarung as his wife. This connection perhaps explains why Tanentoa may have proceeded to Onotoa, his father-in-law's family having established themselves there. From Maude it is also seen that Tanentoa's son Teinai, who was born on Onotoa, was actually married there to a woman, Nei Teunnang.[12] Their child was called Akau II, which further authenticates the genealogy above.

Though these genealogies would appear to make the Karongoa account sound feasible, the same group maintain that Tanentoa was in fact the ancestor of the group, and not Akau. The fame of Tanentoa and the prestige of having him as the ancestor of the group may well explain this anomaly.

If this account is accepted, then the first boti division was into four; Karongoa, Bakoa, Taaki, and Te Imatang (lit. the boti of the foreigner). See figure 14.

The boti Taaki has as its ancestress Nei Tituaabine, but, as with Te Bakoa, this group were earlier inhabitants of Onotoa, and not of the same Tituaabine stock as the Samoan invaders who went to the northern atolls. Rather, like the northern island inhabitants, they must have come in the first invasion from the 'land to the west' and lived on Onotoa alongside the original Gilbert inhabitants, including the Bakoa people, until the time of the Samoan invasion.

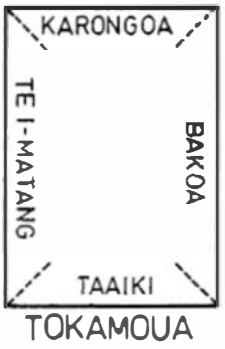


FIGURE 14

When Tanentoa arrived, he split the maneaba into eighteen boti, eight of which are also to be found in Tabontebike itself under the same names. The maneaba is very obviously a Tabontebike style. See figure 15. The layout of kainga and buakonikai which belong to Tokamouea are given in figure 16 ; only their relative positions and not land areas are given.

The foundation of these two maneaba, Tokamouea and Te Raranimatang, and the subsidiary maneaba to the south represent the establishment of the boti social structure on Onotoa and, consequently, the basis of settlement pattern to which the boti system was related. Unlike Beru, however, where two other maneaba systems were introduced headed by different clans, Onotoa, at least as far south as Aikai, was totally a Karongoa island.

3.2.11 Summary

The maneaba-boti structure was obviously a response to the need to create co-operative territorial units. In a society already possessed of an exogamous clan structure, the boti system had two effects relating to settlement pattern. In a minor way, because of the practice of married women adopting their husband's boti, the boti became the

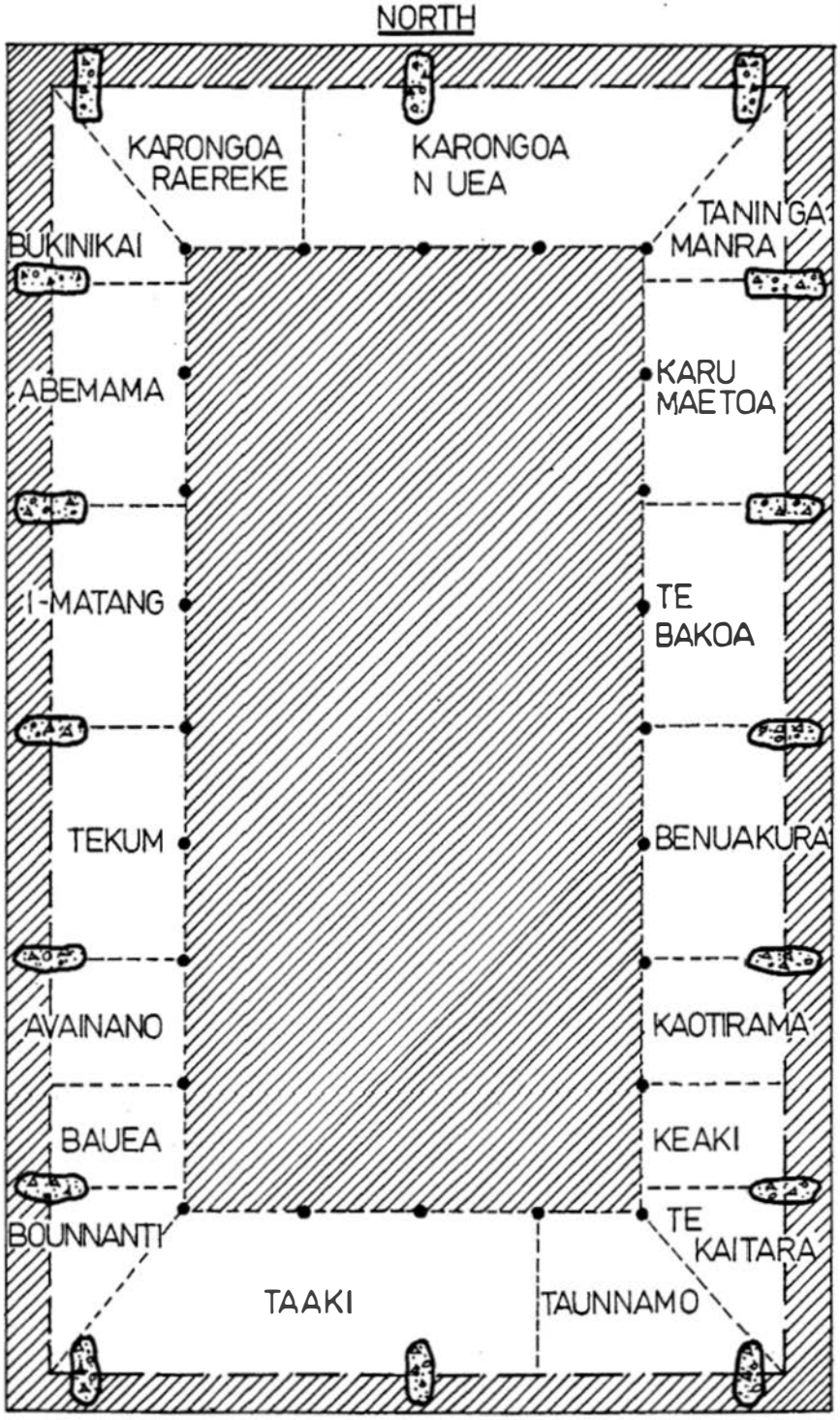

NORTH
KARONGOA RAEREKE
KARONGOA N UEA
TANINGA MANRA
BUKINIKAI
ABEMAMA
KARU MAETOA
I-MATANG
TE BAKOA
TEKUM
BENUAKURA
AVAINANO
KAOTIRAMA
BAUEA
KEAKI
BOUNNANTI
TE KAITARA
TAAKI
TAUNNAMO
BOTI IN TOKAMOUEA MANEABA, TANAEANG, ONOTOA

FIGURE 15

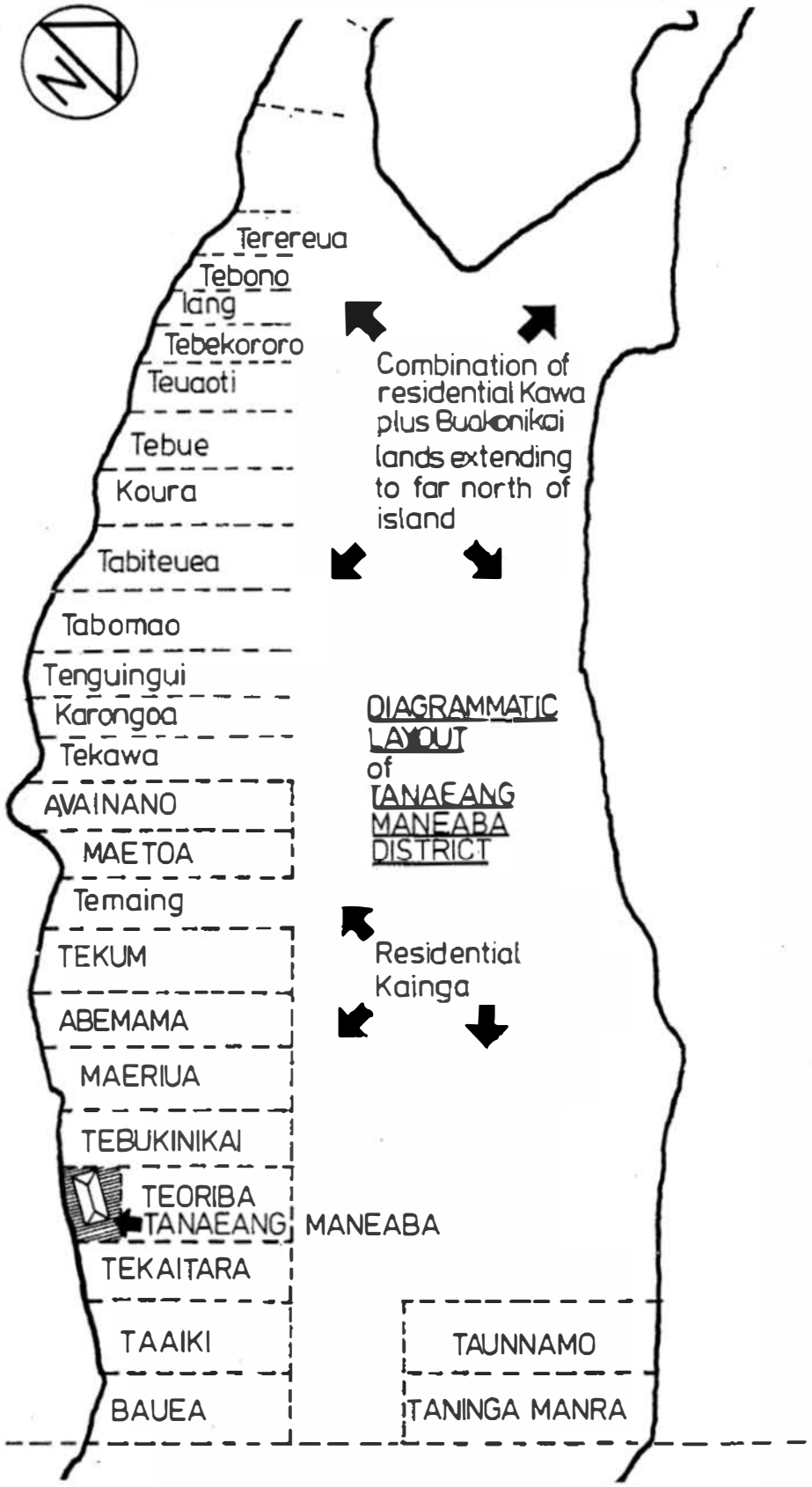

N
Terereua
Tebono
lang
Tebekororo
Teuaoti
Tebue
Koura
Tabiteuea
Tabomao
Tenguingui
Karongoa
Tekawa
AVAINANO
MAETOA
Temaing
TEKUM
ABEMAMA
MAERIUA
TEBUKINIKAI
TEORIBA
TANAEANG
MANEABA
TEKAITARA
TAAIKI
BAUEA
TAUNNAMO
TANINGA MANRA
Combination of residential Kawa plus Buakonikai lands extending to far north of island
Residential Kainga
DIAGRAMMATIC LAYOUT of TANAEANG MANEABA DISTRICT

FIGURE 16

group by which all kainga residents, in spite of varying consanguineal affiliations, were united and to which they owed allegiance. In this sense, the boti was the structure which was responsible for determining residential affiliation. The residential units, known as kainga, were one of the conspicuous features of traditional settlement pattern.

In turn, because of the physical impossibility of maintaining an ever increasing boti population on one kainga, the settlement pattern influenced the social organisation in that the necessary division and expansion of kainga estates frequently resulted in the division and re-allocation of new boti within the maneaba, and even the creation of new maneaba and kainga complexes.

Secondly, under the nominal leadership of the most important boti (usually Karongoa), the boti system and the maneaba united the individual boti into a larger territorial unit which could co-operate on affairs which were more than the concern of individual clans but were of interest to all. In this sense, the boti-maneaba structure was, most importantly, the overriding principle of community organisation. This point having been made, social structure alone is insufficient to totally account for island settlement pattern as it existed in traditional society. Other cultural factors which played important roles are outlined in the remainder of this chapter.

3.3 ISLAND SETTLEMENT PATTERN AND RESOURCE EXPLOITATION

3.3.1 Fixity of Settlement

In discussing various classifications of settlement pattern, Murdock et al. distinguish six different classes with respect to fixity of settlement.[13] These range from temporary camps occupied by migratory or nomadic bands to permanent settlements with permanent resident populations.

Though not specifically differentiated by Murdock, fixity is a two-component variable, and can be judged either in terms of the physical structures or the resident population. Throughout most primitive cultures, either aspect of the fixity of settlement pattern is primarily influenced by the availability, distribution, and cultural methods for the exploitation of resources.

Before analysing the various resources which are exploited by the Gilbertese, it should be noted that, were the analysis concerned with a larger geographical area, Gilbertese settlement pattern would be simply classified as permanent and no further differentiation would be required. This is the case because the minute land areas of the atolls, and the vast ocean distances which separated them, effectively forced a permanent settlement pattern upon the Gilbertese. However, within the Gilbert Island region, further differentiation can be made, particularly with regard to the fixity of the resident population.

3.3.2 Island Settlement Pattern and Food Resources [14]

(a) Agriculture

The three principal food resources which are extracted from the land, the coconut, the pandanus, and the babai, were all introduced by the original Gilbertese inhabitants. If some pandanus were already present, the number of species was certainly increased following human occupation.

Both the coconut palm and the pandanus grow well in the atoll environment. Though nowhere specifically cultivated by the Gilbertese, the coconut palm must have been fairly evenly distributed over approximately ninety percent of the atoll land mass by the time of the Samoan invasions, having spread purely by natural processes. Similarly the pandanus, though at a much lower density, would have covered

most of each atoll, even extending to those places where gravelly soil and high ground-water salinity had deterred the growth of the coconut palm. Whereas the pandanus fruits seasonally, the coconut is fertile all the year round, and it was the coconut which became the staple agricultural component of the Gilbertese diet.

The babai had to be specifically cultivated in deep pits reaching down to the fresh-water lens, and situated towards the centre of the islets where salinity was lowest. Even so, it could be grown along the length of the islets.. Babai never became a major food source, but was of great importance on ceremonial occasions.

Though access to these resources was strictly delimited by land ownership practices, the discussion of which is left to the following chapter, the even distribution of the coconut palm in particular, and its year-round productivity, ensured that the distribution of the agricultural resources had little effect on settlement pattern. It is true however that generally those sections of the atolls where the islets were widest, and hence the coconut palm was most dense and productive, were regarded by the Gilbertese as prime land areas.[15] This attitude was one of the likely factors contributing to the primacy of Buariki and Tannaeang as settlement sites on Onotoa.

(b) Water

Fresh water is obtained from wells sunk to the level of the fresh-water lens. Potable water was generally available, even in times of drought, on all sections of the islets over three hundred metres in width. There were exceptions to this, and on Onotoa, at Tebuarorae for instance, the well water was always highly saline and odorous. The general availability nevertheless indicates that settlement pattern was not influenced by considerations of fresh water supply.

(c) Marine Resources

The second staple component of the Gilbertese diet was seafood, principally fish. The varying habitat formed by shoals, minor currents, reef outcrops, and lagoon-ocean passages resulted in a wide distribution of various marine species across the lagoon. Though drought and other ecological factors could occasionally deplete the lagoon resources, most points along the length of the islets were always close to adequate supplies of seafood, even if the available species did exhibit some variety.

Ocean fishing was best off the extremities of the islets and fishing grounds were known and frequented five to ten miles out to sea. Ocean fish, particularly tuna and shark, were preferred both for flavour and for the bulk of the catch, which ensured continuity of supply. Whereas lagoon fishing was a day-to-day activity, ocean fishing could, by salting and sun-drying the catch, provide sufficient food for long periods leaving a large percentage of time free for other economic activities. Ocean fishing, on the other hand, required favourable winds and seas and was generally only undertaken during the trade wind seasons.[16] At other times fishing was restricted to the lagoon.

The ocean reef showed less variation of species distribution than the lagoon and fish were abundant along its entire length. Fishing was difficult here, however, the ocean reef being very hazardous to navigate by canoe even at high tide, so most fishing was done by rod off the reef edge at low tide.

The reef platform, exposed at low tide on both ocean and lagoon sides, provided a continuous but minor source of food along their entire length.

Even in early times when fishing rights were allocated and recognised, the boundaries generally only applied to

net fishing, and line fishing could be practised indiscriminately.

Particularly on the longer atolls, though even on Onotoa, easy access to the ocean fishing grounds was restricted to settlements close to the extremities of the atoll islets or the outer reef passage. On Onotoa, for instance, only Tabuarorae in the south and Tebaki in the north were within easy reach of good ocean fishing grounds, and certainly of the eastern reef. Access from Tannaeang, Buariki, and Aiaki was more difficult and hence the voyage less frequently undertaken.

(c) Miscellaneous Resources

Though access to firewood and coconut and pandanus timber was always close, some specialist timbers, notably te ngea, only occurred in particular habitats.[17] Their economic and utilitarian importance was however never sufficient to potentially affect settlement pattern.

3.3.3 Summary

An overview of the island resources shows that their distribution was relatively even along the full extent of the inhabited islets. It is very difficult, if not impossible, to reconstruct the factors which led to the choice of particular settlement sites by particular clan groups. However, it is evident that the even distribution of resources, the fact that the Gilbertese were not cultivators, and the small extent of the land surface, were conducive to the decentralised settlement pattern which developed on the Gilbertese atolls.

In fact, in an environment where drought was common and every resource was scarce, hard come-by, and precious, a decentralised settlement pattern ensured the most efficient

use of resources. It allowed constant overall regeneration, and prevented any concentrated exhaustion of resources which could have easily followed from a centralised settlement pattern.

It is thus difficult to postulate the availability of a particular resource as being the factor which was conducive to the establishment of settlement close to that area, the choice probably being made as the result of a number of factors. However, once that choice had been made, it is evident that the settlement pattern was in fact itself an influence on the pattern of resource exploitation within that community.

Thus, on Onotoa, Tebuarorae and probably Tebaki were very much fishing communities, coconut production, especially at the latter locality, being very poor.[18] The ocean fishing grounds, however, could be visited even on a day-to-day basis. Equally, the villages of Tannaeang and Buariki placed a heavy reliance on land-based food production, and ocean fishing, though still common, was not practised to the same extent as in the far northern and southern villages.

3.4 ISLAND SETTLEMENT PATTERN AND COMMUNITY INTERACTION: COMMUNICATION, ECONOMIC EXCHANGE, AND WARFARE

3.4.1 Communication and Economic Exchange

The social organisation of the Gilbertese community gradually stabilized following the establishment of the maneaba and the allocation of boti on the various islands of the group. Day-to-day activity however by no means centred around the maneaba. The maneaba was only used as occasion demanded and was generally only visited by the unimane (old-men) and the rorobuaka (warriors). To imagine therefore that the typical Gilbertese atoll was divided into

a number of socially functioning villages each organised around a maneaba is somewhat erroneous. In fact the operating community unit was the kainga or clan hamlet, the use of which will be discussed in the next chapter.

The village, composed of all boti having a seating place in one maneaba, was on most occasions a conceptual unit rather than a substantial one. This being so, there was little social or economic exchange between the villages as units. Certainly, there were no formal island 'courts' or 'kings' responsible for decisions affecting the island as a whole. Each maneaba group was an autonomous unit.

There were exceptions to this situation and occasionally villages maintained certain formal relations. These however were purely the product of historical circumstances and were not recurrent features characteristic of traditional Gilbertese settlement pattern. Thus, on the basis of shared property such as fish ponds, or because of some ancestral links, two villages would occasionally meet on a ceremonial basis to recognise and confirm the common bond which existed between them. Informants could not remember any such relations existing between villages on Onotoa.

All transport of produce or inter-village movement was either on foot or by canoe. There was no formal road system but an elaborate network of paths covered the island, the typical arrangement of which was apparently determined by the pattern of land-holdings. Informants on Onotoa were unsure of the layout of the pre-contact pathways but the following is their reconstruction of the system.

The linearity of the land form and arrangement of land-holdings posed a communication problem. See figure 17. Any movement up or down the length of the island entailed crossing a number of properties which belonged to other land-owners.

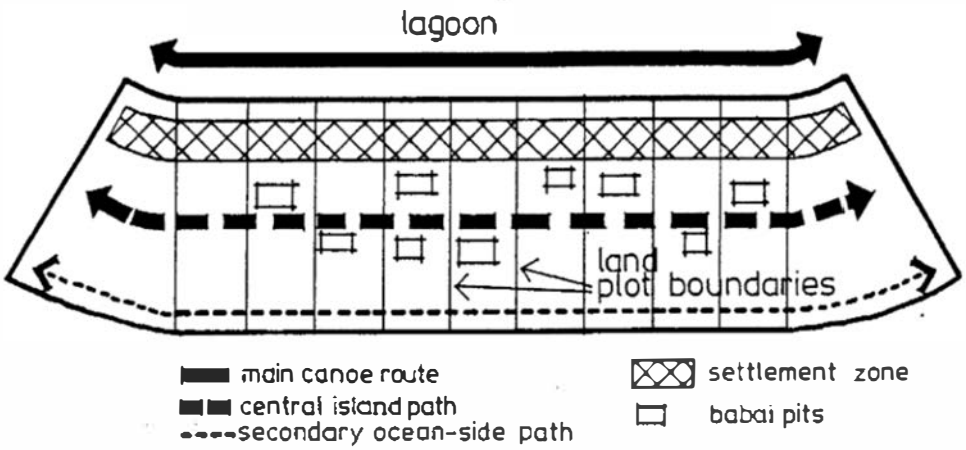


FIGURE 17

Though access to other property was not prohibited, it was generally undesirable both because it left one open to attack and also open to suspicion of theft. Thus movement to distant land-holdings was preferably by canoe. Though Gilbertese canoes were essentially sailing proas, they could be easily poled along the lagoon shoreline where the water was shallow. As property rights terminated at the shoreline, this path was a public way. Transport by canoe was furthermore an efficient means of carting large quantities of produce or building materials.

Where distances were shorter, the preferred path ran down the centre of the island, relatively close to the babai pits, but removed from the general residential strip. The residential areas tended to be deserted by the male population during daylight hours and it would therefore have been courting trouble to have passed unsupervised

through these areas. On the other hand, by walking down the centre of the island, one could be seen by those men who were working the bush or babai pits and therefore not be under suspicion of engaging in illegitimate activities. Nevertheless such movement was always undertaken with caution and company, and preferably in broad daylight.

A minor path extended along the ocean rampart but was not heavily trafficked.

If repeated visits to distant land-holdings were necessary, it was more normal to camp on the land until the work was finished and then to return by canoe. Whilst also obviously saving time and energy, this practice avoided the necessity for repeated excursions away from the safety of the kainga across property owned by other potentially hostile clan groups or individuals. Frequently an individual would have relatives in the maneaba district adjacent to his distant land-holdings, and normal practice would be that he would reside with these relatives while working his land. Therefore, whilst settlements have been described as being fixed, at any one time a number of residents of one settlement were in fact temporarily resident in another settlement, and vice versa. Though no figures can be arrived at for traditional settlements, it is concluded that, while settlement sites were permanent, a proportion of their population was always of a transitory status.

3.4.2 Warfare

Warfare, though not continuous, was a notable aspect of traditional Gilbertese life, a fact readily ascertained from the existence of a warrior set in the age-grade system.

Though disputes often arose within the community between rival groups, there was also intermittent fighting between maneaba factions, and indeed islands as a whole. In such

cases, allegiance was to one's maneaba or island and both then operated as functioning units. Traditionally it was thus warfare, rather than peaceful social or economic exchange, which characterised inter-village and inter-island relationships.

Though each kainga was responsible and made provision for the defence of its group, no provision was evident in the settlement pattern for defence of the village or island as a whole. This was presumably the result of the fact that all land was individually held, or at most was the land of individual kainga.

3.5 ISLAND SETTLEMENT PATTERN AND SPIRITUAL PRACTICE

3.5.1 Introduction

Spiritual practice is used here as a covering term for all practices of a non-secular nature. It therefore includes those practices which, using Western-derived concepts, could be classified as magic, ritual, sorcery, or religion. Even the distinction between secular and non-secular practice is used with caution, the everyday life in traditional Gilbertese society being so steeped in magico-religious behaviour and thought that such a distinction would not generally be recognised by the Gilbert Islander.

In discussing island settlement pattern, the majority of spiritual practices are of little or no import, being the concern of the individual, the clan, and occasionally the maneaba community. The island as a whole was never involved in corporate religious or ritual observance. The individual islander did however endow certain spatial features of his atoll environment with particular spiritual associations.

3.5.2 The Eastern Beach

All of the sixteen islands of the group are exposed on

their eastern shores, with the lagoon, if present, on the western leeward side. The ocean beach presents a vastly different environment from its lagoon counterpart. With the trade winds nearly always present, the jagged reef and pounding surf and only the ocean beyond, it is in total contrast to the calm, shaded lagoon shoreline.

Furthermore, it is above the eastern horizon that Auriaria (lit. Au-of-the-rising-sun), the sun, makes his first appearance at dawn each day. It is not surprising therefore that these eastern shores, distant from the residential sites, held a special mystical and inspirational significance for the ancient Gilbertese.

It was, for instance, on the eastern beach that many rituals (te kawai) and their corresponding incantations (te tabunea) were enacted. They were commonly performed at dawn, while facing the east, and used to inst.ill the performer with some special power or quality, for example, to draw courage before engaging in battle.

It was also on the eastern beach in a small hut that young men, accompanied by an elder, would live for a period of time during their initiation into manhood. Generally, but not always, the ko (bleaching house) in which the young woman would live during the corresponding period of initiation immediately following puberty was also situated on the eastern beach front.

The eastern beach also held special significance in relation to death, for it was along this beach that the souls of the departed were supposed to journey to their final resting place, the land of Naka called Bouru, close to Matang. For three days after death the soul remained close to the body. It then crossed the island to the eastern shore where the ancestral deity Tabakea lived, awaiting souls in search of their final goal.[19] From here they were

directed south along the ocean beach to Nei Tituaabine in Samoa, and from there, back north again along the ocean beach to the tip of the northernmost island in the Gilberts. From there they travelled across the sea to Bouru. Evidently, the tracing of this path, which is the exact reversal of the original migratory track of the Gilbert Islanders, is not coincidental. The eastern beach thus held a special awe for the ancient Gilbertese, particularly close to dawn and dusk, as there was always the possibility of the presence of ghosts passing on their way to the ancestral homeland.

3.5.3 The Land-Sea Opposition

Whereas to many cultures the opposition heaven/earth or sky/land is basic and common, to the Gilbertese the equivalent binary opposition was sea/land. This was despite the fact that the original creation myths concerned the separation of heaven and earth.

Following the separation of heaven and earth came the creation of the lands, achieved by the mutual interaction of sand and waves. An Onotoan legend continues:

> "The land and the sea then became irreconcilably opposed. All things of the land, man, animals, and insects, were the responsibility of the god Tabakea; all things of the sea were the responsibility of Te Bakoa. There was constant fighting between the two."

This opposition was recognised by the Gilbertese as being manifest in many areas, but particularly in relation to architecture, from the overall pattern of island settlement, through the maneaba, and down to the individual dwelling. Like the land itself, the totality of architectural construction represented both the line of conflict between man (the land) and the sea, and of man's supremacy over the sea and those creatures which inhabited it.

On these minute atolls where life itself was precarious, the vast and constant presence of the ocean no doubt contributed to the importance of this opposition. With architectural construction being the only visible stamp of man on this huge oceanic habitat, it is not surprising to find therefore, in addition, architectural elements being used to express, in this opposition, the superiority of man and the permanence of his breed amongst the surrounding ocean world.

3.5.4 Onotoa

On each island in the group there are special places which were connected with historic events involving the ancestors or deities who at various times visited the island. They do not have the status of sacred sites in that no special behaviour was observed to take place on or around them, and this was reputedly the case even in pre-contact times. Nevertheless, even where other details of the legends have been forgotten, the facts surrounding the events which took place at these sites are still well remembered, and referred to.

Four such sites were identified on Onotoa, all of which are reefs.

1. Banga-ni-nai

When Teinai was sent to Onotoa by Tanentoa to revenge the death of Te Boi, he fought with Ten Toakakang and was killed. In the battle, Teinai was decapitated. His head and bodily remains were washed onto the reef of Tabuarorae called Banga-ni-nai. See figure 18. From there his remains were carried back to Beru by te on (turtle) and the frigate bird where they were subsequently hung in the Tabontebike maneaba.

2 and 3. Bitanang-ieta-ae-inanon and Aon-te-baba

The daughter of Taburitongaun and the wife of Te Boi, Nei Toromao, bore Te Boi a child, Mamanti. Mamanti took as his wife Nei Mweroa who arrived on Onotoa in Kabare's canoe Tabunorou. In the battle in which Nei Mweroa was taken, the canoe was wrecked. The body of the canoe formed the reef Bitanang-ieta-ae-inanon, and the main sheet the reef Aon-te-baba. See figure 18.

4. Te Kawa

About fifty metres off Te Kawa (a village not then in existence) is a long consolidated reef consisting of many pinnules each standing about a metre high. The legendary warriors Kaitu and Uakeia [20] anchored off Aon-te-Baba in the evening planning to conquer Onotoa the following day. In the dawn, they saw this reef and, taking it to be a long line of fearsome warriors, departed leaving Onotoa untouched.

All of these sites, though not sacred, were a permanent physical reminder of the old legends and legendary ancestors and were held in a certain amount of reverence because of this.

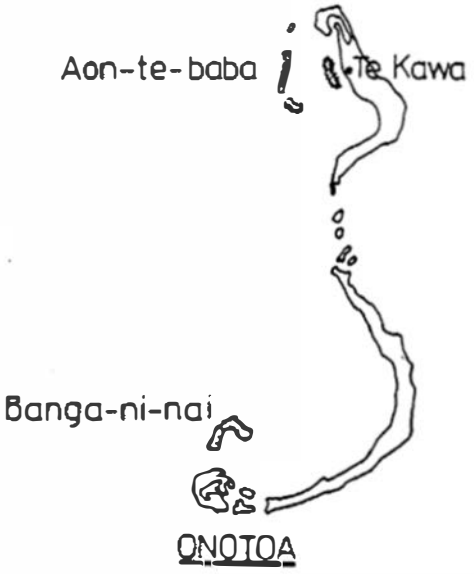


FIGURE 18

1 See Chapter 2, p. 53.

2 The evolution of the boti will be traced in the proceeding sections.

3 H.E. Maude, *The Evolution of the Gilbertese Boti*, p.37.

4 *Ibid.*, p.18.

5 *Ibid.*, p.14.

6 This information was based on that outlined in: H. E. Maude, 'The Two Partitions of the Maneaba', in possession of the author, and corroborated by informants on Onotoa.

7 These lands were acquired because of the requirement of clan exogamy. Thus whilst a clan lost land everytime a woman left the group, it also acquired new land each time a man was married. This situation gradually led to the almost total diversification of clan land-holdings which exists today.

8 H. E. Maude, *The Evolution of the Gilbertese Boti*, p.20.

9 *Ibid.*, p.14.

10 These figures have been reproduced from H. E. Maude, *The Evolution of the Gilbertese Boti*, p. 28 and p. 19.

11 That Te Atunuea was a Tabontebike-style maneaba can be adjudged by its proportions, the system describing those proportions to be discussed in Chapter 8 .

12 H. E. Maude, *The Evolution of the Gilbertese Boti*, p.21.

13 G. P. Murdock and S. F. Wilson, 'Settlement Patterns and Community Organisation : Cross-Cultural Codes 3', *Ethnology*, 11, 1972.

14 Appendix 1 provides a full description of Gilbertese flora and the distribution of the major species on Onotoa.

15 The widest sections of the islets were free from salt spray, had good soil, and the ground-water was low in salinity.

16 For a detailed description of the climate of the Gilbert Islands, See Appendix 1.

17 See figure 21, Appendix 1.

18 The village of Tebaki ceased to exist following European contact.

19 A.F. Grimble, *Migrations, Myth and Magic from the Gilbert Islands*, arranged and illustrated by R. Grimble, London, 1972.

20 These warriors conquered the majority of the Gilbert Islands around 1650 A.D.

chapter 4

RECONSTRUCTION OF TRADITIONAL COMMUNITY SETTLEMENT PATTERN

4.1 INTRODUCTION

The concern of this chapter is with the differentiation and pattern of usage of space within the community unit.

The previous chapter indicated that settlement was relatively evenly distributed along the length of the narrow land mass. The absence of a nucleated village structure precludes the identification of community units on a spatial basis alone. As an alternative to physical cohesion, a community unit may be identified on the basis of social cohesion. It was on this basis that the Gilbertese defined their community. All individuals belonging to a boti having a spatial allocation within a maneaba inhabited kainga and kawa within the vicinity of that maneaba. The extent of the kainga and kawa associated with a particular maneaba was, therefore, the extent of a particular community unit.

4.1.1 Physical Description of the Community Unit

(a) Size

The islands which compose the Gilbert group vary in length from some five kilometres up to forty kilometres. In addition, each island supported varying populations. It is difficult therefore to generalise on community size. When asked to speculate, informants on Onotoa estimated that the traditional community extended from as little as one kilometre up to five kilometres on either side of the maneaba. The larger communities could therefore have occupied up to a ten-kilometre section of the island.

(b) Population

Subject to droughts, famines, and disease, the population of the Gilbert Islands varied considerably between the time of the Samoan invasion and European contact. The

first Europeans to visit the Gilberts during the 1850's to 1890's reported community populations varying between two hundred and fifty persons and seven hundred persons.[1] On this basis, if the number of boti in the average maneaba is taken at fifteen to twenty, then the population resident on each kainga would have been approximately twenty-five to forty persons.

(c) Spatial Units

Each maneaba community unit was composed in its entirety of:

1. Kainga sites (residential)
2. Kawa sites (residential)
3. Buakonikai land-holdings (agricultural)
4. The maneaba complex (communal)

The remainder of this chapter outlines the principles of the articulation and the use of these four spatial sub-units of the maneaba community, as they affect, or were affected by other features of traditional cultural organisation.

4.2 COMMUNITY SETTLEMENT PATTERN AND SOCIAL STRUCTURE

4.2.1 Introduction

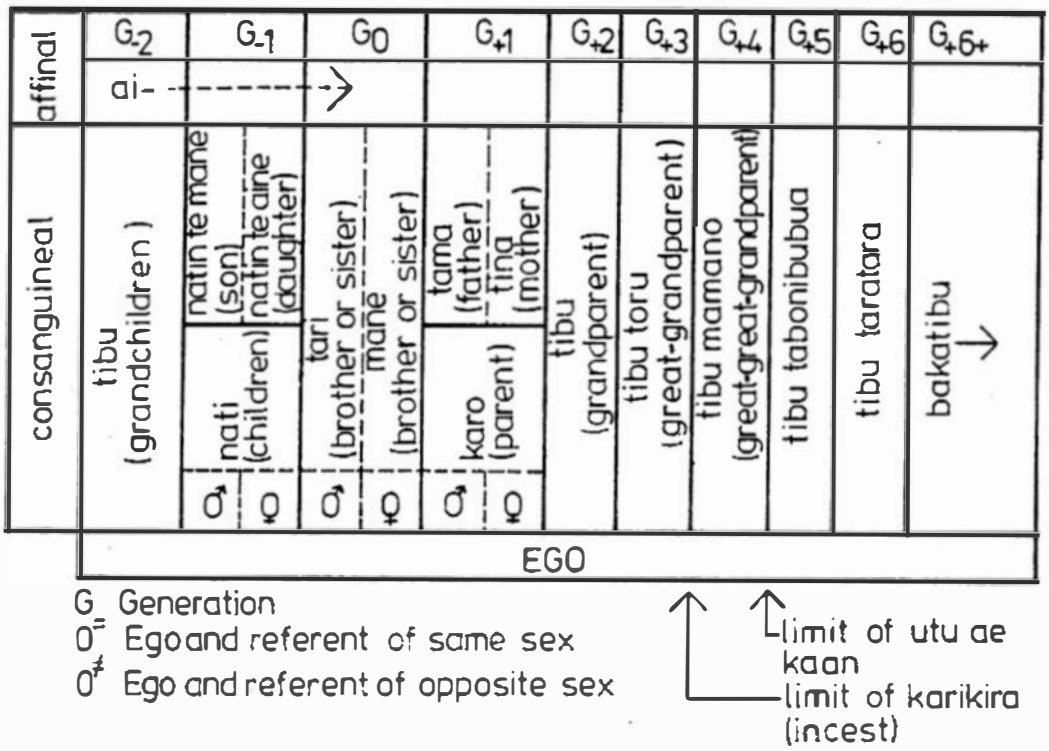
In traditional Gilbertese society there co-existed two social structures, one of which was essentially brought to the islands by the invading Samoan clans. The second was the remnant of a pre-existing kinship structure which apparently continued to operate despite the invasion.

The structure which was introduced was that of the lineage/boti, an exogamous patrilineal descent structure. The primary function of the boti was the regulation of social affairs. For example, it was involved in the choice of

marriage partners, residential affiliation, and hence the formation of co-operating social groups. Furthermore, through the maneaba system, in combination with the age-grade system, it was a regulator of community affairs.

Prior to the arrival of the Samoan clans, the autochthones who inhabited the islands possessed another kinship system which was based on the universal distinction between biological and sociological relations.[2] This distinction is usually conceptualized by anthropologists as a distinction between consanguineal and affinal relatives. To the Gilbertese, however, affines were not classified as relatives, and the distinction was clearly drawn between consanguineal relatives and non-relatives, the latter group including affines. When referring to an affine, the term for the corresponding lineal relative could be used as an act of courtesy or respect, but even then it was only used in conjunction with the prefix 'ai' (e.g. FaSiHu=ai-FaBr).[3] Certainly, affinal relatives did not have conferred upon them the rights, duties, and privileges which were accorded consanguineal kin.

Based on the work of Lundsgaarde[4] and Maude,[5] the following table outlines the semantic use of kin terminology for consanguineal relatives.



4.2.2 The Utu

The kin group based on consanguineal relation was termed utu. The word utu itself had a number of meanings, listed by Lundsgaarde as follows.[6]

(a) "A kind of common identity defined as originating through a connection by blood or adoption". Used in this sense, the term acted as a conceptual noun not referring to any group as such, but to the recognition of the concept of the biological relationship of blood relatives (though including the case of adoption).

(b) "A kind of code for conduct which stipulated a behavioral relationship of enduring diffuse solidarity." Again the term was used as a conceptual noun, but used minus the requirement of consanguinality, in a sense which roughly parallels in English the terms fellowship or allegiance.

(c) "An alter who shares with ego either utu identity or utu code for conduct, or both."

(d) "A plurality of alters who share with ego either utu identity or utu code for conduct or both, whether or not they constitute a social group."

(e) "A plurality of individuals who share with one another either utu identity, or utu code for conduct, or both, whether or not they constitute a social group."

Two points emerge from these last three terminological usages. Firstly, 'utu' could be used in reference to either a conceptual or a social grouping, and those utu members who may actually have formed a social group were unmarked vis à vis the total utu component of which they were a part.

Secondly, as either the identity element or the code for conduct element could singly form the basis of utu membership, there was a certain ambiguity in the everyday usage of the term. Thus, for example, two brothers who had fallen out would have been utu in the identity sense but non-utu in the code sense. Similarly, a spouse was regarded as utu in the code sense but non-utu in the identity sense. An individual possessing both elements, identity plus code for conduct, was not differentiated from those who possessed only a single element. Identity plus code was thus a second un-marked category in Gilbertese kinship.

It is generally agreed that there were two sources of utu identity. Primarily, utu identity was based on consanguinity and was therefore traced bilaterally, that is through both parents. Within the large category so formed, both Maude[7] and Lundsgaarde[8] document a number of sub-divisions. The first of these, te utu ni koua (lit. the true utu), was according to Maude the nuclear family. The second

category, though not named, consisted of all second cousins and closer cognates, that is, the group descended from a common great-grandparent.

A third group comprised all those descended from a common great-great-grandparent, and was labelled te utu ni kaan (lit. the close utu). Finally came te utu ae raroa (lit. the far utu), this group comprising all those who could trace any degree of consanguinity. Theoretically, it was composed of fourth cousins and more distant collaterals.

The second mode of origin of utu identity was adoption. It appears that an adopted child could maintain utu identity with both his adoptive and his natal parents.[9]

Similarly, there existed a number of sources for utu code for conduct. The most usual of these was marriage. Though a person's spouse was regarded as utu in the code sense, the other relatives of the spouse were not. Quite often, the spouse's close relatives could be labelled with kin terms, but nevertheless none of the usual rights and obligations recognised between utu members operated in such a case.

The second mode of origin of utu code for conduct was co-residence. The normal practice in traditional Gilbertese society was for the wife to reside on the estate of her husband and his kindred. Frequently a relative of the wife, typically a niece or nephew, would also take up semi-permanent residence in the same household, particuarly when the wife was pregnant. In such a case, the husband's family would regard the wife's relative as a member of their utu in the code sense.

Finally, it was possible for utu code for conduct to be established between very close friends, despite there being no genealogical tie between them. Such a union was formally

celebrated in a meeting termed Te Bo. Furthermore, it was expected that these utu links would not end with the deaths of the people who established them, and that the close kin of the initiators would also be involved.

These then were the principles by which utu as a label could be applied to a plurality of individuals in traditional Gilbertese society. It is evident that the term did not refer to a finite group of people in regular social interaction, but to a category of relationship.

However, this is not to say that the utu was not possessed of any social reality. Indeed, in its functioning, the utu was a vital component of Gilbertese life. For example, it was concerned with the inheritance of property, the regulation of marriage, and a number of other aspects of social and economic co-operation. The individuals involved and the aspect of the utu relationship which was brought into play depended upon the situation and the occasion.

4.2.3 Land-ownership and the Utu

All land in the Gilbert Islands, with the exception of the ground on which the maneaba stood, was individually owned with ownership in the majority of cases vested in the utu. Property was most commonly transferred by direct inheritance from parents to their natural and/or adopted children.

The property-inheritance groups so formed, though not themselves named, were headed by an individual called te oi-ni-bai (lit. the essence of the thing).

The position of the oi-ni-bai and the formation of property inheritance groups can best be explained by example. One informant from Onotoa, Ten X (age approximately sixty-five years), was the owner of five separate land plots

which together formed his estate. He had five children, three sons, one of whom was the first-born, and two daughters. All of the children were married and had children of their own. Ten X, his five children, and his grandchildren would form one property-inheritance group, Ten X's spouse and the five children and grandchildren would form a second property-inheritance group, but because of the low status of women, it would be unusual, unless she was later widowed, for her to be accorded the status of oi-ni-bai. Ten X was the sole owner of the estate but his children all had usufruct privilege, provided good relations were maintained with their father.

On the death of Ten X, his estate would be divided among his children. Each child would then head his/her own property-inheritance group, and the males would take on the status of oi-ni-bai. Each child would only possess a portion of Ten X's estate, but in addition, on the death of Ten X's wife, each child would inherit property from their mother. The new estates belonging to the children would thus be a composite of both parents' estates.

As land quality was similar along the length of the atoll, but varied progressively across the atoll from lagoon to ocean beach, property divisions were in the latter direction. This practice ensured that when an estate was divided, the subsequent portions would all bear similar characteristics, even if of only narrow frontages. See figure 1 .

Those lands which were inherited from the father were distinguished from those inherited from the mother and known respectively as mwini mane and mwin aine lands.

On the death of a land-owner, his estate was not divided evenly but according to strict principles. These principles, recorded on Beru but the same for all southern islands, are as follows:

"1. On the death of an owner with issue his (or her) children in approximately equal shares, subject to the following exceptions:
   (a) The eldest son receives more than his brothers or sisters,
   (b) the sons receive more than the daughters,
   (c) if all are daughters, the eldest receives more than the younger,
   (d) if there are both sons and daughters the eldest being a daughter, the eldest son receives the largest share, then the other sons taking equal shares, then the eldest daughter and lastly the other daughters taking equal shares .....
2. On the death of a person without issue, should he have no brothers or sisters, the land would be divided into mwini mane and mwini aine lands. The lands would then be returned to the utu of the father and mother of the deceased respectively. The nearest relation to the deceased in each utu would take the land or should there be several equally near, the land would be divided amongst them.
3. On the death of a person without issue, should he have brothers and sisters or their issue, his land would be divided amongst them. These brothers and sisters would all get as far as possible equal shares, not as in 1." [10].

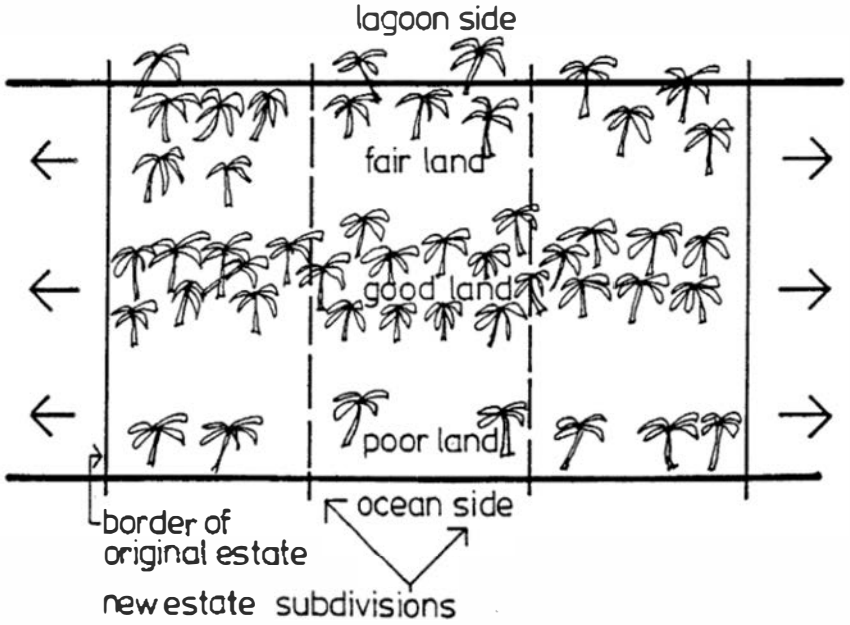


FIGURE 1

It can be seen that although utu membership was the required qualification for inheritance rights, the actual distribution of the deceased estate among utu members, even direct descendants, was not equal. In fact, two informants on Onotoa stated categorically that traditionally land was not owned by women at all, though they did inherit some household implements used for cooking and food preparation. Though it is possible that Onotoa was different from other islands in this respect, it seems unlikely. At least two legends from the time of Akau and Ten Tanentoa contain reference to women owning lands, and it seems possible that the unavailability to women of the status rank oi-ni-bai could have led to this confusion.

The disparity between male and female shares conformed to the general status inequality of men and women in Gilbertese society. In fact, Lundsgaarde records that the contemporary ratios of male to female title holders on Nonouti and Tamana Islands were 63:47 and 47:53 respectively. [11] Despite the trend towards status equality in comparison with traditional times,these figures are surprising, particularly in the latter case where the number of female title holders actually exceeds the number of male title holders. Further analysis of Lundsgaarde's data however, as he points out, explains this anomaly. Firstly, male title holders hold more plots than do female title holders. Secondly, the male-held plots are larger and of better quality. Because post-marital residence was virilocal, this arrangement was an economically efficient method of dividing estates, ensuring that the larger and better quality plots remained in the vicinity of the household.

The practice of favouring the eldest male child held similar advantages. The eldest male child would, on the death of his father, eventually become the most senior uni-mane of his age group within the utu and hence the atu (head) of that segment of the utu. In addition, if his father

was also atu-n-te-boti, he would also inherit that position. It was therefore natural that he should have been provided with land-holdings commensurate with that elevated status. The best plot was also usually the one on which the father's residence was located, and may even in fact have been the kainga of the father's boti. As the eldest son would eventually become head, it was desirable that he too should set up residence on the ancestral estate. Because it would have been disadvantageous, in terms of both prestige and potential for accommodation, to vastly reduce this ancestral estate by sub-division, it was therefore also a consequence that the share which the eldest son received should be the best and the largest.

4.2.4 The Evolution of Traditional Land-holding Patterns

Before discussing a number of other institutionalised methods of traditional property conveyance which were used by the Gilbertese, the evolution of land-holding patterns within the hamlet will be discussed in relation to both the boti and the utu. The case is hypothetical, for no records exist of traditional hamlet land-holdings. Nevertheless, it serves to indicate the relationship of these two kin systems with hamlet settlement pattern, and rationalises the apparently random nature of hamlet land-holdings as they existed even prior to European contact.

Relatively early in its history, the maneaba Te Raranimatang of the Buariki community on Onotoa was composed of eighteen boti. Using this hamlet as an example, it is assumed that there were eighteen corresponding kainga allocated by the maneaba founder.

As preferred residence was on the kainga of an individual's boti, and as every individual was a member of a boti, theoretically all the hamlet inhabitants were dwelling on their respective kainga.

On any particular kainga, the land-holders residing there, though members of the same boti, had varying utu ties through the marriages of boti members. For simplicity's sake, it is assumed that originally the various buakonikai holdings of the title-holding kainga residents were in compact allotments. A section of this theoretical hamlet land-holding pattern is shown in figure 2.

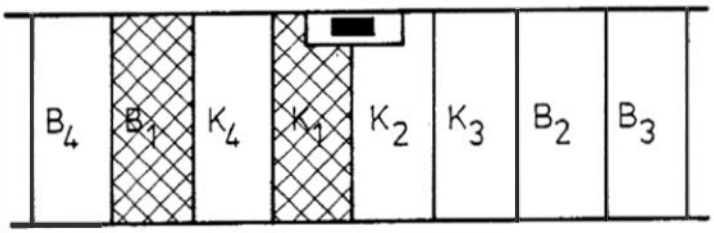


FIGURE 2

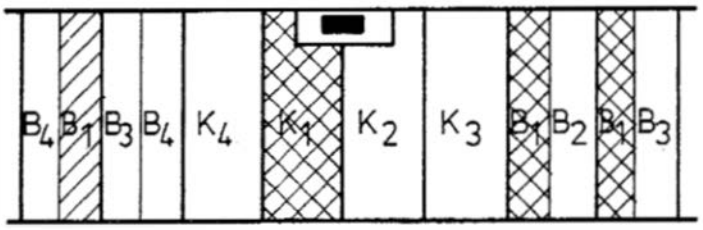
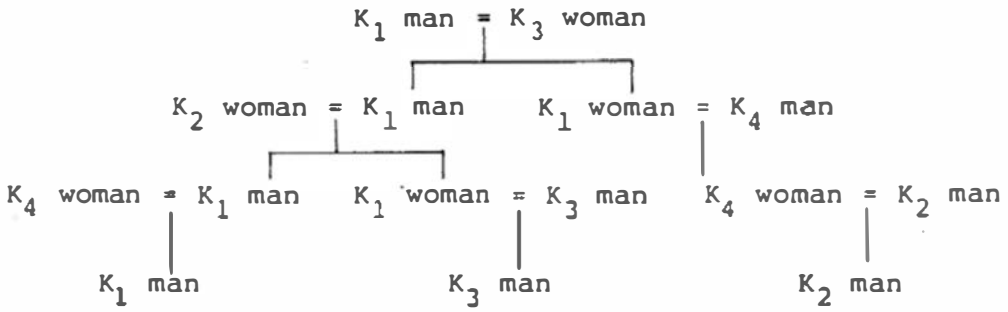


FIGURE 3

Taking into account the requirement of clan exogamy, the following is a hypothetical genealogy of the head of K_1.



In accord with traditional practices of property inheritance, the following is a possible evolution of K_1 B_1 estate based on this genealogy. On the death of the K_1 great-grandfather, K_1 and a part of B_1 passed to the K_1 grandfather and the remainder of B_1 passed to the K_1's grandfather's sister.

On the death of the K_1 grandfather, K_1 passed to the K_1 father and his portion of B_1 passed to the K_1 father's sister.

On the death of K_1 father, the K_1 son inherited K_1. Though not inheriting any of the original B_1 holding, the K_1 son, on the other hand, inherited portions of B_2, B_3, and B_4 through his mother, grandmother, and great-grandmother.

The kainga and buakonikai holdings of the K_1 son are shown in figure 3. Though the K_1 son is still in possession of K_1, his buakonikai holdings are now dispersed throughout the hamlet. The original buakonikai holdings of the K_1 boti have now passed entirely to the K_3 and K_4 boti through the marriages of the K_1 women.

It is evident therefore that, even if at one stage kainga and buakonikai holdings were geographically compact in relation to the boti members who owned them, it would take only a few generations to disperse them. Because of their importance, kainga land-holdings were kept undivided if at all possible. Where it was necessary to sub-divide a kainga estate, then the sub-division was preferably confined to the male offspring. By this means, boti land-holdings were maintained and did not pass via women to other boti in the community.

In fact, the choice of marriage partners was not confined to the community, and marriages took place not only between residents of different hamlets, but even in some cases between residents of different islands. Most individuals, therefore, whilst residing on their kainga, would have various buakonikai holdings within the hamlet as well as additional holdings scattered along the length of their home island, and even some land-holdings on other islands.

It should be noted in passing that the utu and the land-holding practices associated with it served as a counterfoil

to the boti/kainga system. Though the kainga remained as boti-based territorial units, any inter-kainga disputes were nevertheless mitigated by the inevitable utu links which also existed between them.

Whilst this situation may have been beneficial to the social cohesion of the maneaba community and the island as a whole, individual land-holders were more concerned with maintaining and consolidating their estates, preferably within the vicinity of their kainga or hamlet. Because of transport difficulties and the hazard of venturing too far from the boti territory, distant land-holdings were not a desirable commodity and were only used as an emergency source of food supply. To counteract the dispersal effect of the utu and also bilateral inheritance, the Gilbertese practised a number of other methods of property conveyance. These practices can be divided into three sub-groups:

1. Inheritance
2. Donation
3. Compensation

4.2.5 Inheritance

A practice of widespread occurrence throughout the Gilbert Islands was that of adoption. The Gilbertese give a number of reasons for the prevalence of this custom.[12] As a man's children married and set up households of their own, they had progressively less time to care for their parents who with increasing age became less capable of caring for themselves. A middle-aged individual, by adopting a new-born child, would ensure himself of a protector, provider, and companion in his old age.

A child could also be adopted in order to cement the friendship of the adoptive and the child's natural parents, as custom dictated that the allegiance so formed should be inviolate.

An individual could also adopt so that his property could pass to other than his/her natural heirs. Close bonds between siblings or individuals and their siblings' children, that is their ai-nati (nieces and nephews) often prompted this arrangement. The fact that a couple were childless was also a reason for adoption. Referring to this, Maude notes:

> "The aged Gilbertese ..... would consider it as little short of a calamity to have no-one to whom he could transmit his knowledge of arts and crafts, magic and the traditions and genealogies of his family." [13]

Both the male and female children, including the first-born, could be adopted and arrangements were made prior to the birth of the child. Adoptions were normally confined within the utu, though in the southern Gilberts this was not a necessary condition. Once an approach was made by an adopter, it was socially impossible for the adoptee's parents to refuse the request, even though they may have been personally loath to lose their child.

The adopted child would remain in the care of his natural parents until weaned, whereupon he would be taken into the care of his adopters. On this occasion, a present (te-ri-ni-marai), usually a plot of land, but occasionally a fish pond or a babai pit, was made to the adopters by the natural parents. The purpose of this gift was to repay the adopter for bringing up the child. On some of the southern islands this gift was returned on the occasion of the adopted child reaching maturity.

If the adopted child was of the same generation as his adopters' children, he was referred to as nati (child), and if of the generation of the adopters' grandchildren, as tibu (grandchild). On the southern islands, regardless

of generation, the adoptee and the adopter invariably referred to each other as tibu.

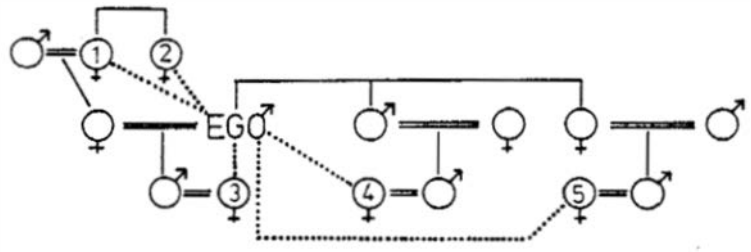
On the death of the adopter, his property was divided amongst his natural and adopted children, an adoptee being in theory accorded the same portion as if he had been a natural child. In practice, an adopted child often received slightly less than if he had been a natural child.[14] The land which the adopted child received was known as the aba-n-nati or the ana-n-tibu. In addition, the adopted child would receive his due share from his natural parents upon their death. Should the adopted child eventually die without issue, or before the death of his adopter, the land would revert to the adopter or, if he was no longer alive, his closest male relative. Adoption thus ranked with natural inheritance as a primary means of property conveyance in traditional society.

Also classified under inheritance are lands which were gained via marriage. Though the marriage act involved no exchange of property, land was a factor of primary concern in the choice of marriage partners. One reason for this was that an individual was customarily entitled to usufruct privilege in relation to his spouse's estate. More importantly, as an individual's boti and utu estate was fragmented by the marriage of his female siblings, so the estate was reconsolidated through the marriage of that individual and his male siblings. Females who stood to inherit valuable lands or lands proximal to an individual's estate thus became ideal marriage partners. In an environment where resources were scarce and land was a primary concern, it is not difficult to see how concepts of romantic love were generally over-ridden by more practical matters. To this end, marriages were customarily arranged by utu elders. Their children complied with these arrangements to maintain the approval of their elders, and hence a guaranteed future share in their estate.

4.2.6 Donation

Throughout the Gilbert Islands, special acts of kindness or devotion, especially from people outside the utu, were rewarded by customary gifts, frequently including property.

1. Te Aba-n-Tinaba or Te Aba-te-Bora. Those women who were designated as an individual's tinaba are as shown:



Legend:
1 Wife's mother
2 Wife's mother's sister
3 Son's wife
4 Brother's son's wife
5 Sister's son's wife

It was permissible, though not mandatory, for a man to maintain sexual relations with those women designated as his tinaba. In addition, these women would anoint and garland the man during public ceremonies and care for him generally. When such a relationship was activated, the children of the man would customarily, upon his death, arrange the transfer of one of his lands to that man's tinaba, the land being known as Te Aba-n-Tinaba.[15] This land would not revert to the man's utu even should his tinaba die without issue. A similar relationship existed between an individual and his eiriki. Those

women designated as a man's eiriki are as shown:

Legend: 1 The uterine sisters of his wife, known as Taua-ni-kai

2 The wives of his uterine brothers

However, in this case, land rights were not conferred upon the female partner of such a relationship.

2. Te Aba-ni-Kuakua. A person who was sick or aged would normally be cared for by his utu. Where this service was provided by a non-utu member, it was usual for him to receive a gift as compensation for his unusual effort and devotion. The customary gift was a land plot, Te Aba-ni-Kuakua, though the extent of the gift depended upon the degree of service provided. This gift required the consent of other relatives, and an overly generous gift to a person outside the utu would not be approved of.

3. Te Aba-n-Aine. An individual customarily acquired usufruct privilege to the plot which would pass to his spouse on the division of that estate. In addition, Lundsgaarde records that on Tamana Island land known as Te-Aba-n-Aine (the land of women) could be donated to a daughter upon her marriage, dependent upon the approval of the woman's siblings.[16]

4. Te Aba-ni-mumuta (land-of-suckling). This land was given in payment to a foster mother or wet nurse, usually when the natural mother was ill or had died in childbirth.

4.2.7 Compensation

A number of crimes carried with them customary penalties consisting of confiscation of property and fines payable in land.

1. Te Nenebo (the revenge). Should an individual kill another he was punishable by death, carried out by men of the dead man's utu. Lundsgaarde adds that on Tabiteuea, when a man was found guilty of murder, it was preferable that he was killed by members of his own utu.[17] If the murderer fled before he could be punished, and consequently his victim's death was not avenged, a number of payments to the dead man's utu were customary, and enforced by the unimane. These are recorded by Townsend:

> "1. Nuna = Te Buangui - a whale's tooth necklace, his 'shadow'. This was buried with the murdered man.
> 2. Baona = A canoe (if the murderer had one).
> 3. Te Kieni Kaiti = All the murderer's personal belongings, together with various additional presents from his utu.
> 4. Te Nenebo = Two pieces of land - one from the mwini mane lands and one from his mwini aine. The same rules applied should a woman be the murderer or murdered. Should the murderer be strong enough to resist payment of his Nenebo the fight will go on until the Old Men stop it. The Old Men will enforce the payment. No Nenebo passes if the murderer is killed in expiation of his offence." [18]

2. Te Bai-n-Ira (the thing-of-theft). This was land paid in compensation for theft. The details are recorded by Townsend:

"The custom was to convey - For the first theft - one piece; For each succeeding offence - one piece; until all his land is finished when he might be enslaved by the owner of the property. He then became the absolute property of his master and any offence committed against the slave is regarded as an offence against his master." [19]

3. Te Bai-n-Aine (the thing-of-the-woman). The unmarried sisters of a man's wife were regarded as his wives if he chose to exert this right. They were termed his eiriki or taua-ni-kai and in some cases resided with the man along with his wife. Should another man have intercourse with any of these women, it was therefore regarded as adultery and the husband could claim land in compensation for this act. Such land was termed Te Bai-n-Aine or Te Aba-n-aine.

4.2.8 The Kainga Under Change

It has been noted that the preferred residence was on the kainga of one's boti, but for a number of reasons this was not always possible or desirable. This resulted in the establishment of estates known as kawa. The most common reason for the establishment of kawa was population pressure on the ancestral kainga. As the boti population increased, kainga land was placed under increasing pressure, both in terms of resource availability and dwelling space.

Compounding the problem was the gradual loss of kainga and proximal buakonikai holdings to other boti through the marriage of female boti members, effectively increasing kainga population pressure.

Kawa were also established in order to exploit potentially productive buakonikai holdings which existed at such a distance from the kainga as to render daily visits to them impractical. These lands might have always been in the possession of kainga members but, until the establishment of kawa, not exploited by them. Alternatively, they could be

inherited from individuals who were members of the other boti and be too valuable to leave unexploited. An example of this was the establishment of the kawa Te Angauma on the southernmost tip of Beru subsequent to that island's invasion by the Karongoa folk. Though the kainga of Karongoa was adjacent to the Tabontebike maneaba, Te Angauma was established so that its residents could look after the nearby Karongoa fishing rights.

Finally, kawa were established for social reasons. For example, where there existed insoluble friction or dispute between kainga residents, the unimane could direct certain segments of the kainga population to re-establish their residence on one of the buakonikai holdings at some distance from the ancestral kainga. Alternatively, some kainga members who wished to maintain close links with their utu could, with the permission of the unimane, establish a kawa near that utu whilst still maintaining their boti affiliation.

Kawa were therefore sub-sections of the parental kainga and the process of their foundation was the establishment of a residential function on what were previously buakonikai holdings. Kawa did not have the status of kainga and were thought of merely as residential sites minus the ancestral links which the kainga possessed. All individuals who resided on kawa maintained their boti affiliation and returned to the kainga for all the ceremonial, ritual, and social activities which were connected with the boti.

4.2.9 Summary

Spatially, each maneaba district was divided into three separate components plus the maneaba itself:

1. Kainga
2. Kawa
3. Buakonikai

The bases of this spatial division and of the distribution of these components amongst individuals within the community were the two social structures on which traditional Gilbertese society operated, the boti and the utu.

Each boti was affiliated with one or more kainga plus subsidiary kawa, and all clan members lived on these estates. Kainga and kawa were thus residential land-holdings. Buakonikai or land-holdings were non-residential and were used for the exploitation of resources.

All land, including the kainga and kawa, was individually held, inheritance being invested in the utu.

4.2.10 The Spatial Division of Two Maneaba Districts on Onotoa

The discussion to date has explored the process of the development of community settlement pattern as it related to the social descent structures operating in traditional Gilbertese society. Because these social structures were common to all southern islands, settlement pattern was also, in essence, the same throughout this geographical area.

During fieldwork, the reality of this settlement pattern was investigated in two maneaba districts on Onotoa, namely Tannaeang and Buariki. The settlement pattern of these two districts today bears no resemblance to that of traditional times, and the reconstruction which follows is thus only partial. It is based principally on current land records supplemented by informant comment.

The land records held on Onotoa supply the names of all land tracts on the island, noted in approximate order from north to south.[20] No areas or records of boundaries appear on these lists, nor is any distinction drawn between kainga, kawa, or buakonikai holdings. No date appears on the records

but it is estimated that they record the sub-divisions as they would have existed in approximately 1920 - 1940. By this time, all the land tracts had been so reduced in size by sub-division that none along the main body of the northern islet extended the full distance from lagoon to ocean beach. From information received from the Clerk of Courts, Onotoa, those tracts which fronted the lagoon beach in order from north to south were recorded.

1. Tannaeang

It has already been established that the building and internal boti division of the first maneaba Tokamouea at Tannaeang was carried out by Akau. The four boti divisions so formed were Karongoa, Bakoa, Taaki, and Te I-Matang. Akau and his followers first landed at Maeriua, which, following the sub-division, became their kainga. The land tract on which the maneaba was built belonged to the Bakoa group. This land was called Teoriba and the remaining portion became their kainga. The land to the south, Taaki, belonged to the followers of Nei Tituaabine. This became their kainga and their boti took the same name. These were the first kainga. The boti Te I-Matang, being the visitors' boti, possessed no kainga of its own. The position of the three original kainga is remarkably similar to the Tabontebike example, with the Karongoa kainga lying to the north of the maneaba, Bakoa to the east, and Taaki to the south. These positions conform to the orientation of the boti within the maneaba itself.

Following Tanentoa's second partition, there were eighteen boti in the maneaba. The boti and their associated kainga are listed here. See also figure 4 and figure 5.

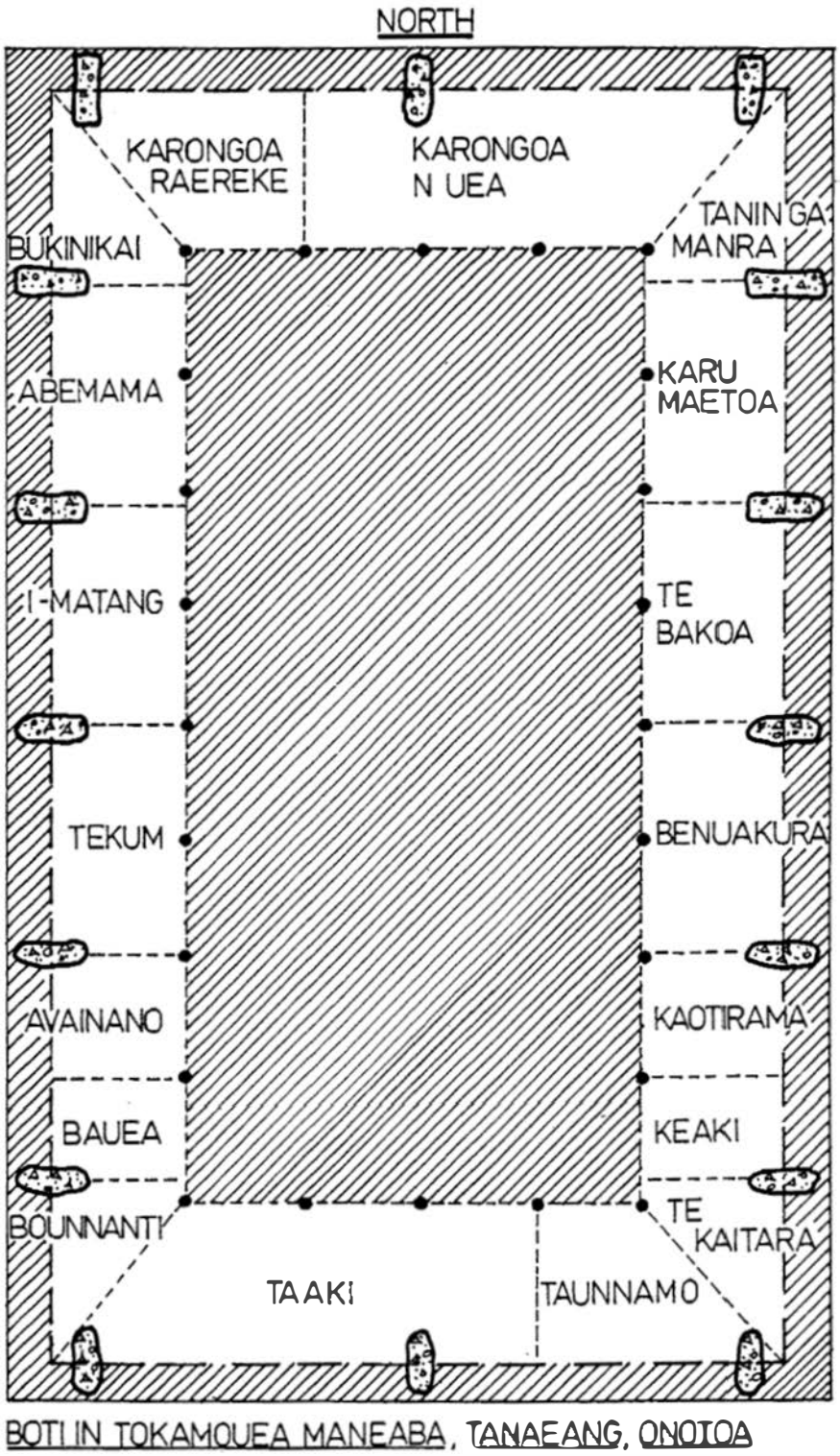

NORTH
KARONGOA RAERERE
KARONGOA N UEA
TANINGA MANRA
BUKINIKAI
ABEMAMA
KARU MAETOA
I-MATANG
TE BAKOA
TEKUM
BENUAKURA
AVAINANO
KAOTIRAMA
BAUEA
KEAKI
BOUNNANTI
TE KAITARA
TAAKI
TAUNNAMO
BOTI IN TOKAMOUEA MANEABA, TANAEANG, ONOTOA

FIGURE 4

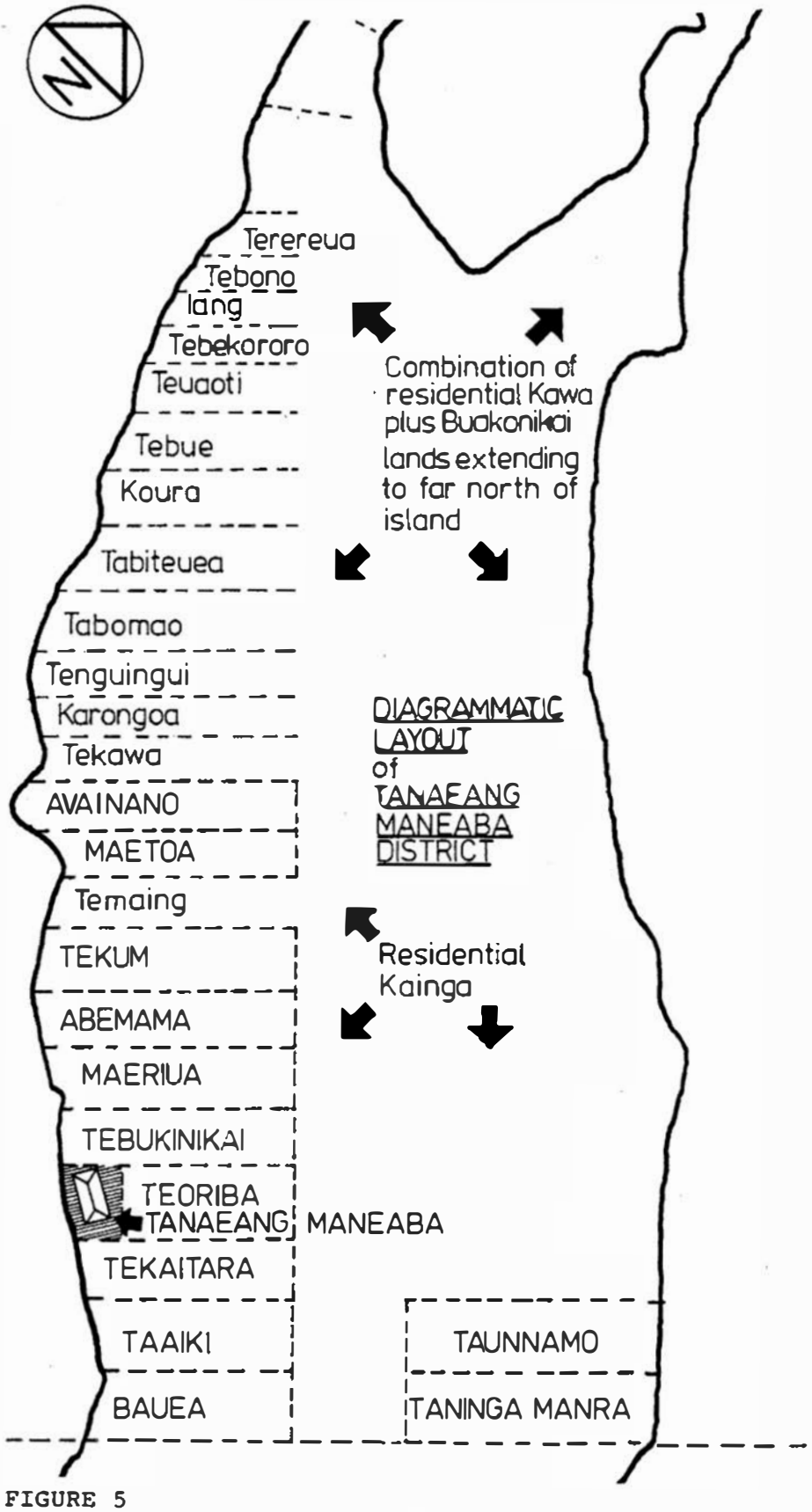

Terereua
Tebono lang
Tebekororo
Teuaoti
Tebue
Koura
Tabiteuea
Tabomao
Tenguingui
Karongoa
Tekawa
AVAINANO
MAETOA
Temaing
TEKUM
ABEMAMA
MAERIUA
TEBUKINIKAI
TEORIBA
TANAEANG
MANEABA
TEKAITARA
TAAIKI
BAUEA
TAUNNAMO
TANINGA MANRA
Combination of residential Kawa plus Buakonikai lands extending to far north of island
DIAGRAMMATIC LAYOUT of TANAEANG MANEABA DISTRICT
Residential Kainga

FIGURE 5

	Boti	Kainga
(i)	Karongoa n Uea	Maeriua
(ii)	Karongoa Raereke	Maeriua
(iii)	Taninga Manra	Taninga Manra (Te Waka)
(iv)	Karumaetoa	Maetoa
(v)	Te Bakoa	Teoriba
(vi)	Benuakura	?
(vii)	Te Kaotirama	?
(viii)	Keaki	Keaki (at Otoae)
(ix)	Te Kaitara	Te Kaitara
(x)	Taunnamo	Taunnamo
(xi)	Taaki	Taaki
(xii)	Te Bounnanti	Taburimai (in Tabuarorae)
(xiii)	Bauea	Bauea
(xiv)	Avainano	Avainano
(xv)	Tekum	Tekum
(xvi)	Te-I-Matang	-
(xvii)	Abemama	Abemama
(xviii)	Te Bukinikai	Te Bukinikai

The order of this partition and the allocation of kainga were as follows:[21]

1. The boti Te Bakoa was divided into two, the new boti being Karumaetoa, whose ancestor was also Bakoa. This boti was allocated the old Bakoa kawa of Maetoa for its kainga.

2. The boti Taaki was divided into two, Taaki Tiere sitting to the west of the southern end of the maneaba, and Taaki Taunnamo immediately to the east. The original kainga was similarly split to form the new kainga of Taunnamo.

3. The followers of Temwea were allocated the boti of Abemama lying immediately to the north of Te-I-Matang.

4. The boti Benuakura was allocated to a branch of the original Tabontebike clan of the same name and the descendants of Taberanang. Their kainga bore the same name, Benuakura.

5. The boti Tekum, descended from the ancestral Baibebeku, occupied the kainga of Tekum and the inaki immediately to the south of Te-I-Matang.

6. The boti Te Kaotirama was allocated a position immediately to the south of Benuakura on the eastern side. This boti was closely allied to the Karongoa clans through its founding ancestor Buatara, the brother of Kourabi and Tematawarebwe. In Tabontebike, Kaotirama was formed by the fission of the Karongoa boti and so occupied territory within the original Karongoa allocation. Onotoan informants could not account for the positioning of Kaotirama away from Karongoa in the Tokamouea maneaba at Tannaeang. It is quite possible that, if there was no room for them alongside Karongoa, they might have been allocated the inaki south of Benuakura because there was space there. Such an arrangement was not uncommon. Neither could the Onotoan informants explain the apparent lack of kainga for this boti but did agree with the suggestion that, like Karongoa Raereke, they might have shared the Maeriua kainga with Karongoa-n-Uea.

7. The last lineage to be allocated an inaki was Avainano, to the south of Tekum and with their corresponding kainga to the very north of the community.

Subsequent to this partition, both the Karongoa and the Taaki boti were further sub-divided and two extra boti were admitted to the maneaba.

8. In the south-eastern corner of the maneaba, a place was made for the boti Te Kaitara who also acquired the northern half of the original Taaki kainga.

9. In the north-western corner, space was provided for Te Bukinikai who acquired the southern portion of Karongoa kainga Maeriua.

10. The boti Te Bouannanti was allocated to the descendants of Taburimai whose kainga was however situated at Tabuarorae and called Taburimai.

11. The descendants of Nei Tituaabine and Koura, the Tropic-Bird invaders from Samoa whose clan name was Keaki, were allocated a boti immediately to the north of Te Kaitara, but their kainga was situated on the distant central islet at Otoae. In fact, there was a kawa to the north of the maneaba called Koura, but whether this was used by the Keaki boti could not be definitely established.

The circumstances of the admission of these latter two boti, and the reason for their distant kainga estates, were not discovered.

12. Finally, the boti Karongoa-n-Uea made space for the entry of the clan Taninga Manra whose kainga lay to the east of Bauea.

Apparently there was one other adjustment to the Karongoa boti. Tanentoa's grandson Akau II, whose mother was an Onotoan, returned to Beru to run his father's boti. He later sub-divided this boti giving the portion Karongoa Raereke to his son Baibuke. The descendants of Baibuke apparently returned to Onotoa where they had many utu and were allocated a portion of the Karongoa-n-Uea boti under the same name Karongoa Raereke. Informants from boti other

than Karongoa denied even the existence of this boti, and it is not generally referred to in the maneaba traditions. It seems possible therefore that the Karongoans on Onotoa made this distinction only amongst themselves, possibly in emulation of the famed Tabontebike Karongoa clan. This hypothesis would also explain away the lack of specific kainga associated with Karongoa Raereke, and they probably resided alongside the other Karongoans on Maeriua.

The boti Te I-Matang (lit. the foreigner) was allied with a land plot Te Kawa, situated immediately to the north of the Avainano kainga. The land Te Kawa was, following Tanentoa's partition, allocated to a woman Tawana-ni-Matang as her kainga, but, as she had no children, the kainga fell into disuse. The original Uma-ni-mane on this kainga known as Uma-ni-Kamauri (lit. house-to-make-healthy), and the kainga itself became a sanctuary to which anyone whose life was in danger could repair until the threat had passed. The sanctuary was inviolate and, should a man and his family who occupied it so desire, they were free to sit in the boti of Te I-Matang.

Following Tanentoa's sub-division, only four of the eighteen boti held kainga which were not immediately adjacent to the maneaba. The twelve kainga which held the remaining boti occupied a one-kilometre stretch of shoreline on either side of the maneaba and were bounded to the south by the northern limit of the Buariki kainga.

These kainga, averaging some 85 metres in width, were too small to support the growing kainga populations and, prior to European contact, each kainga supported subsidiary kawa which extended to the very northern tip of the islet.

2. Buariki

Somewhat less is known of the details of the Buariki maneaba partition and the corresponding land sub-division. The par-

tition of the maneaba was carried out by Taburitongaun and reputedly all fifteen of the boti were included on the single occasion.

By studying the order of the ceremonial food distribution amongst the boti it is possible to trace the temporal sequence of the inclusion of each boti, the former sequence being an expression of the latter. The following table lists, in the order of their inclusion, the fifteen boti and gives their corresponding kainga estates where known. See also figure 6 and figure 7 .

	Boti	Kainga
1.	Buariki	Buariki
2.	Umantebuke	Umantebuke
3.	Abara	Abara
4.	Te Bouannanti	Raorao
5.	Te Wa-ni-Matang	Te Wa-ni-Matang
6.	Te Ba	Te Ba
7.	Te Kaninganinga	Te Kaninganinga
8.	Tengea	Tengea
9.	Aontena	Aontena
10.	Temanai	Temanai
11.	Tawana	Tawana
12.	Abara Bitannang	Abara Bitannang
13.	Tabomatang	Tabomatang
14.	Uman Auriaria	Uman Auriaria
15.	Te Inaki-ni-Marawa	-

Careful study of this list provides further evidence that the majority of the boti were all included in the one partition.

1. In accord with the Tabontebike model, Buariki was the first included and was allocated the northern end of the maneaba. Despite the name, Buariki, being

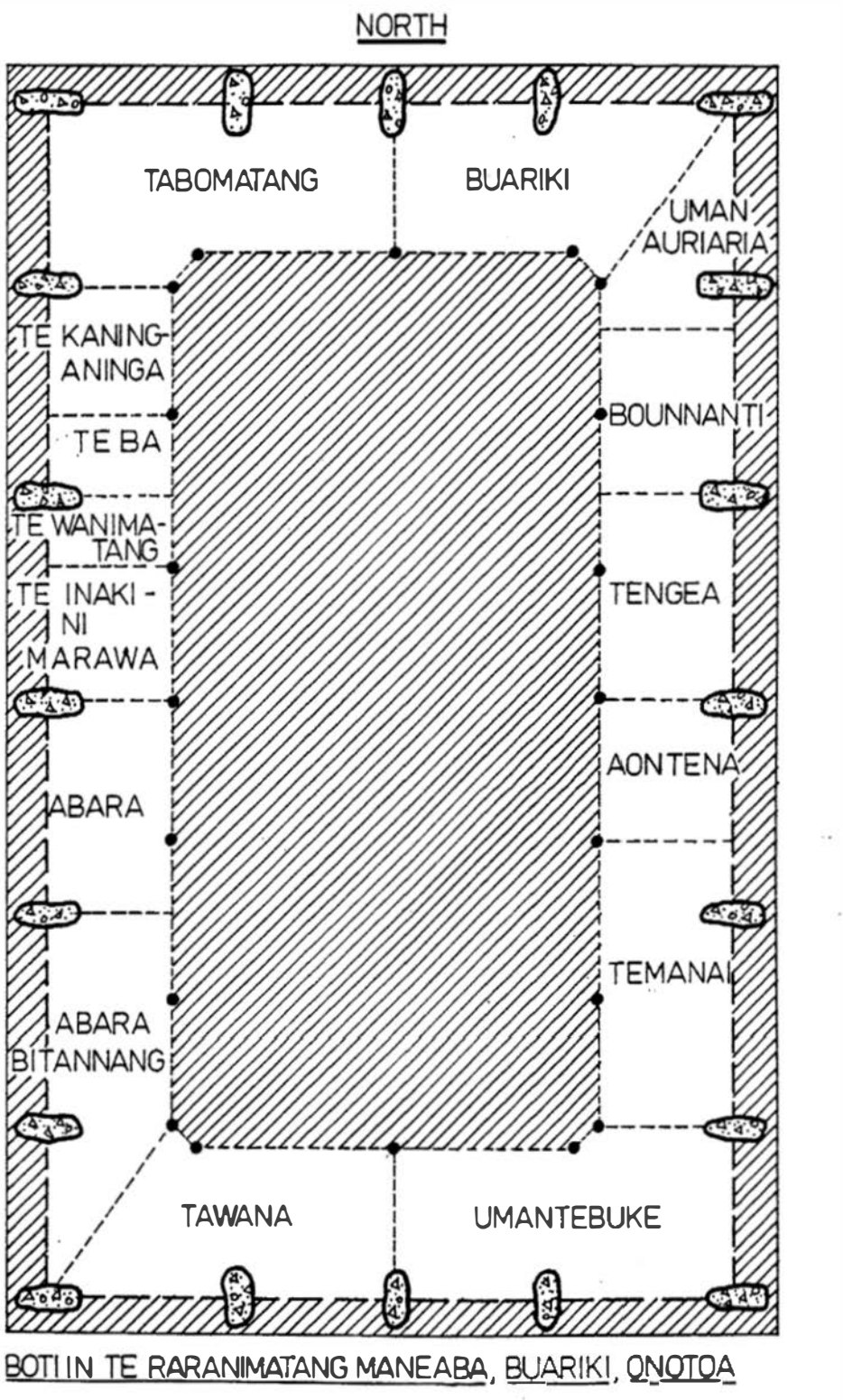

NORTH
TABOMATANG
BUARIKI
UMAN AURIARIA
TE KANING-ANINGA
TE BA
TE WANIMA-TANG
TE INAKI - NI MARAWA
ABARA
ABARA BITANNANG
BOUNNANTI
TENGEA
AONTENA
TEMANAI
TAWANA
UMANTEBUKE
BOTIIN TE RARANIMATANG MANEABA, BUARIKI, ONOTOA

FIGURE 6

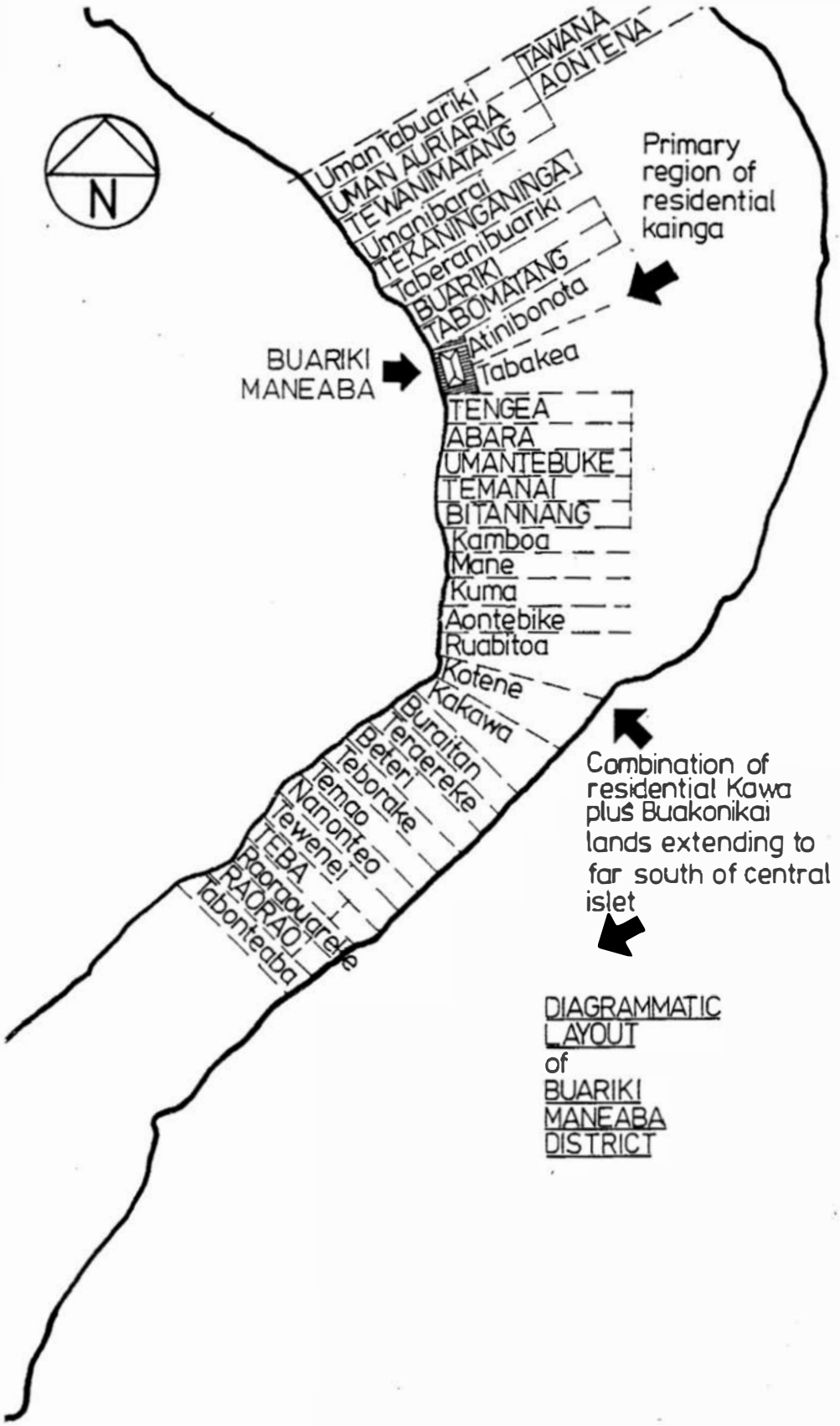

N
TAWANA
AONTENA
Uman Tabuariki
UMAN AURIARIA
TEWANIMATANG
Umanibarai
TEKANINGANINGA
Taberanibuariki
BUARIKI
TABOMATANG
Atinibonota
Tabakea
Primary region of residential kainga
BUARIKI MANEABA
TENGEA
ABARA
UMANTEBUKE
TEMANAI
BITANNANG
Kamboa
Mane
Kuma
Aontebike
Ruabitoa
Kotene
Kakawa
Buraitan
Teraereke
Beteri
Teborake
Temao
Nanonteo
Tewenei
TEBA
Raoraougereke
RAORAOU
Taboniteaba
Combination of residential Kawa plus Buakonikai lands extending to far south of central islet
DIAGRAMMATIC LAYOUT of BUARIKI MANEABA DISTRICT

FIGURE 7

headed by Taburitongaun, was in fact a Karongoa boti and the name probably derived from the Buariki boti in Taburitongaun's home maneaba on Nikunau.

2. The second boti, Umantebuke, was positioned along the southern end of the maneaba, again in accord with the Beru model.

3. The boti Abara probably occupied the entire south-western side of the maneaba from the centre post on the western side to the post at the south-west corner.

4. Te Bouannanti was allocated an inaki on the north-eastern side.

5. At this stage, in accord with normal practice, a boti had been allocated to each side of the maneaba. The boti of the visitor, Te Inaki-ni-Marawa (lit. the inaki-of-the-ocean), was not included amongst those boti participating in the ceremonial distribution of food. The reason for this was that this inaki did not actually belong to any particular clan group and was even, on occasion, unoccupied. Its position in the sequence of boti allocation cannot therefore be inferred, but, due to the necessity of providing a boti for maneaba visitors, it is suggested that its likely inclusion was at this point.

6. Then followed an orderly completion of the remaining vacant spaces within the maneaba. It is this orderly aspect which suggests that the partition of the maneaba was in fact achieved on a single occasion. The western side was completed with the addition of Te Wa-ni-Matang, Te Ba, and Te Kaninganinga.

7. The eastern side was completed with the addition of Tengea, Aontena, and Temanai.

8. The maneaba at this point was practically complete and it seems likely that the inclusion of the remaining boti was by a process of fission. The subsequent boti were in all likelihood the only boti not included in the first partition. Umantebuke was internally divided, creating the new boti Tawana.

> Similarly Abara would have split to form Abara Bitannang, and Buariki to include Tabomatang and Uman Auriaria.

Unfortunately, the ancestors and deities associated with each boti could not be accurately ascertained, but further research into the genealogies of the clans discussed in (8) would throw more light on this hypothesis.

As was the case in Tannäeang, the population of the Buariki maneaba district apparently outstripped the capacity of the kainga to hold them. Kawa were eventually established as far as the southern tip of the northern islet and down the entire length of the central islet, all this land having been claimed by Taburitongaun upon his arrival on Onotoa.

A small islet lying between the two main islets and called Abanekeneke was actually the property of the maneaba and represented an exception to the rule that all land in the southern Gilberts was individually owned. Fishing rights were also associated with the property and all produce which was periodically collected from this area was distributed amongst the entire maneaba population.

Informants stated that the population living on kawa on the central islet eventually became so large that it became impractical, on ceremonial occasions, to house the entire population within Te Raranimatang. In addition, it no doubt became impractical to organise and govern such a populous and far-flung district from the one maneaba.

As a result, two additional maneaba were built, firstly one at Aiaki and later one at Otoae, both identical in boti layout and structure to the original Buariki maneaba. These two maneaba, both called Tanonikain Te Raranimatang (lit. Place-of-the-people-from-Te Raranimatang), were originally responsible for maintaining the day-to-day affairs within

their district, but were still responsible to the Buariki maneaba. With time, however, they achieved such a degree of independence that immediately prior to European contact they were no longer associated with Buariki and there was even intermittent fighting between them.[22]

4.3 COMMUNITY SETTLEMENT PATTERN, AND POLITICS AND STATUS

4.3.1 Introduction

The application of Western terminology to the organisational patterns of other cultures is often a difficult task. Every society operates with some system/s for maintaining internal order, and for providing for external relations. Such a system is termed political when it provides order through two related notions, that of power and that of authority. In addition, to be 'political', it should be a civic system. Thus the head of a family may possess both the power to enforce social order and the authority to do so, but could not be normally termed a political leader. Similarly, a sorcerer or religious leader may advise on matters of civic concern, but without the power or authority to enforce this order could not be termed a political leader. All three criteria are necessary. However, when discussing other cultures, even these points should be taken as indicative of the type of system being described, rather than as definitive of it. In many cultures, particularly those belonging to small-scale societies, the distinction between systems of say social, religious, and political control are often not as clear cut as they are in Western society.

In traditional Gilbertese society, the acquisition of authorised power was directly linked to the concept of status. Political authority was thus an extension of general social authority in that the rule system which conferred political authority was the same as that which conferred general social authority. Status, or more correctly, the enactment of

that authority which status conferred, was therefore of a political nature when the group subject to that authority extended beyond the individual family or clan.

With this in mind, the nature of the Gilbertese political system is examined in the light of general categories of political systems.

Beattie suggests that political systems may be usefully distinguished as centralised or non-centralised, conceding that such distinctions often represent extreme poles of what should in fact be a linear scale.[23] Lacking any form of centralised authority, as for example a system of ruling chiefs, kings, or headmen, the traditional Gilbertese political system was definitely non-centralised. In the non-centralised category, Beattie distinguishes four sub-categories.[24]

The first of these, usually found in simple hunting-gathering communities, is characterised by the lack of any formal organisation beyond that of family or kin groupings. The second type of society is that composed of separate village communities administered internally by appointed councils, the members of which are usually appointed on the basis of social pre-eminence such as outstanding wealth or ability. The third category consists of those societies where unilineal descent determines group membership, and though not exactly determining political leadership, defines a type of political affiliation which, as has been seen, varies according to the situation and the relation with other groups. The fourth category comprises those societies in which political control is mainly conceived of in terms of an'age-set' system.

With this system, the allocation of authority is based upon seniority. Such a system is convenient for administering groups wider than those based on kinship or clan affiliation.

It was in this fourth category that Gilbertese society operated, but the age-set system is concerned with much more than just political authority. As previously implied, the age-set system is determinative of status. It is thus concerned with a whole range of concepts including authority, privilege, and respect, of which 'authority' has political implications.

The basic rule of an age-set system is that all the men born within a certain number of consecutive years are admitted into one set, and each grade so formed moves into the next as one unit. In some societies, this organisation achieves a formal extreme and in such cases other systems of social organisation including descent often become relatively unimportant.

In the Gilberts, a balance is achieved between the two systems of age-set/status allocation and descent/boti affiliation. The three basic age-grades of adult men in the Gilberts are listed below.

Lexical Form	English Equivalent	Age Range
Roronga	bachelor	15 to 30
Rorobuaka	warrior or married adult male	30 to 50
Unimane	male elder	50 plus

Males, in general, hold higher status than women.

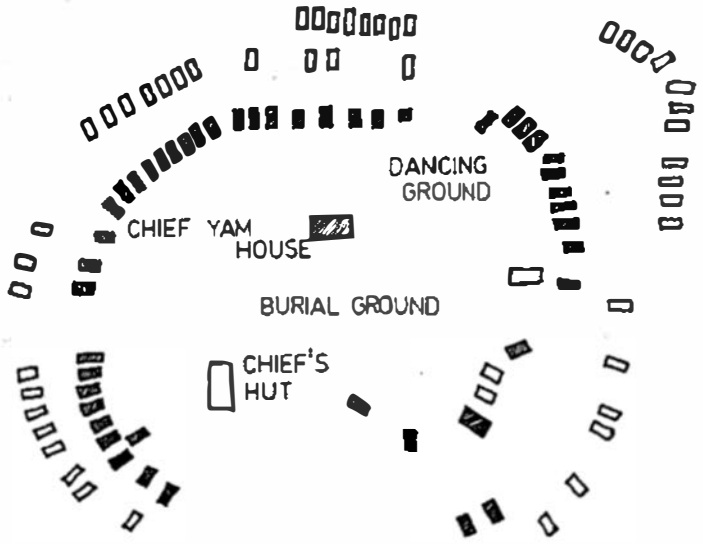
The subjects of authority as exercised by members of any one grade are those of any lower grade. Except in rare circumstances, therefore, only the unimane would exercise authority of a political nature, all other age-grades only wielding authority within a clan group or family.

Decisions of political import were always made within the maneaba, where the boti system operated. Though it would be expected that the heads of the individual boti and especially the head of Karongoa would all be political leaders, in fact it was the unimane who ruled supreme. Decisions within a boti group, or for the maneaba as a whole, were supposedly made by the boti or maneaba leaders, but the opinion of the unimane was always sought beforehand. No judgement could ever be passed which was not in agreement with the consensus of opinion of the unimane. Indeed, even the order of debate among the various boti within the maneaba was with respect to seniority; that is, the order of the original allotment of a place in the maneaba decided the order of debate. Thus in Tennaeang, Karongoa opened the debate, followed by Taaki, Bakoa, and so on.

In a society supposedly led by a ruling clan, especially one whose name is suffixed by the term 'king' (Karongoa-n-Uea), it would not be surprising to find an hierarchical settlement pattern such as occurs in most other societies which are ruled by a particular king or clan. Typically, in such a case, the residences of such a group, if not the central element in community organisation, are at least distinguished by their size, elaborateness, or adornment.[25] See figure 8.

Settlement pattern in the Gilberts bore no resemblance to such an arrangement. Residential kainga establishments were all similar in appearance, occupying seemingly random positions along the stretch of the islets. However, the realization that the real authority was not, as it first appeared, invested in the clan, that is a territorial group, but in the unimane as a whole makes this lack of stratification seem more reasonable. With a unimane residing on each kainga, and all unimane being of equal status, every kainga was thus of equal political import. Any stratification of authority or status which did exist was therefore located within the kainga rather than across the community,

and, if anywhere, it was in the kainga that the architectural expression of the status hierarchy was likely to have been manifest.



OMARAKANA VILLAGE, MELANESIA

FIGURE 8[26]

However, an unstratified political system does not, sine qua non, pre-suppose an unstratified settlement pattern. Indeed, in Western society, the stratification of settlement pattern is much more related to levels of affluence within the community than it is to levels of political authority.

The uniformity of settlement pattern in the Gilberts was in fact a deliberate expression of the status/age-set system, of which political authority was a consequence. Political authority therefore, whilst not being at odds with settlement pattern, should not be taken as explicative of it.

The age-set system in traditional Gilbertese society guaranteed, throughout the individual's life span, a particular status

and all the privileges which went with that status. In addition to such concepts as authority, respect, and privilege, each age-grade specified the responsibilities and activities which membership carried with it. Based on Lundsgaarde, the following is a summary of the age-grades found in Gilbertese society and the characteristic roles which they defined.[27]

Unimane:	male elder; 50 plus years; maneaba speaker; kin-group representative; property title-holder; expert on tradition, etiquette, and technology; grandfather; father; adopter; widower.
Rorobuaka:	warrior, adult married male; 35 to 50; maneaba supervisor; household representative; property title-holder; major economic provider; grandfather; father; adopter; son.
Roronga:	bachelor; 15 to 30; son; grandchild; participant in all male economic activities; lowest adult male status.
Ataei-ni-mane:	boy; 3 to 15; son; grandchild.
Unaine:	female elder; 45 plus; wife; widow; grandmother; mother; respected elder.
Aine:	adult married woman; 20 to 45; supervisor of household activities; mother; grandmother; adopter; property title-holder.
Tei-n-aine:	virgin; 13 to 20; daughter; granddaughter.
Nikiranroro:	unmarried non-virgin woman; concubine; promiscuous female; divorcee; unwed mother; daughter; grandchild.

The traditional Gilbertese, as a group, did not accept individual deviation from social norms or ideals.[28] An individual could raise his status within an age-grade only in areas which were overtly beneficial to, and congruous with, the general social and economic aims of the community. Individuals could, therefore, increase their skill in fields such

as magic, fishing, cultivation, oratory, or warfare. On the other hand, any activities which could be interpreted as self-centred or competitive, or which led to an individual becoming affluent or independent of his fellow islanders, were strongly discouraged. Three mechanisms ensured this conformism.

Firstly, individuals who engaged in deviant activities were subjected to such negative sanctions as ostracism, shame, and exclusion from customary privilege with respect to the sharing of surplus food in times of need.[29] Secondly, the bubuti custom worked against an individual's ability to become more affluent than his fellows and guaranteed the sharing of surplus wealth.[30] Finally, conformism guaranteed the progressive supply of information from elders as to the particular skills which they possessed. Non-conformism usually resulted in the withdrawal of access to this information.

Thus it was in traditional Gilbertese society that the non-stratification of settlement pattern gave a positive expression to the ideals of conformity and humility which were the tenets of the age-grade system, and discouraged the rise to pre-eminence by either clan or individual which any stratification might have produced.

Even on Onotoa, an island which has always had, according to residents of other islands in the group, a tendency to independence and individualism reflected in an unwillingness to share surplus food and wealth, the principles of equality were vigorously maintained. Any abundance of foodstuffs or produce (crafts, tools, and weapons) were kept carefully shielded from public display. Though the Onotoan was less generous with his surplus wealth, it was never used as a display of affluence but merely as a guarantee of at least his own personal well-being in times of future drought or ill-fortune. The non-stratification, or equivalence, of

kainga residences therefore performed the function of existing as a visible symbol of the status and political equality of the various clan groups, and of individuals within their society.

1 J. Webster, *The Last Cruise of 'The Wanderer'*, Sydney, 1854?
and,
T. Powell, 'Journal of a Visit to the Gilbert Islands', *London Missionary Society Journals*, 1879.

2 H. P. Lundsgaarde, 'Social Change in the Southern Gilbert Islands', p. 84.

3 *Ibid.*, p. 88.

4 *Ibid.*

5 H. E. Maude, *The Evolution of the Gilbertese Boti.*, p. 63.

6 Lundsgaarde, 'Category and Group in Gilbertese Kinship: An Updating of Goodenough's Analysis', *Ethnology*, 2, 1972.

7 *Ibid.*

8 Lundsgaarde, *op. cit.*, p. 98.

9 *Ibid.*

10 M. M. Townsend, 'Land Customs - Beru Islands', no date.

11 Lundsgaarde, 'Social Change in the Southern Gilbert Islands', p.139.

12 H.C. and H.E. Maude, 'Adoption in the Gilbert Islands', *Journal of the Polynesian Society*, 40, 1930, pp. 225-235.

13 *Ibid.*, p.226.

14 *Ibid.*, p.231.

15 Townsend, *op.cit.*, p.4.

16 Lundsgaarde, 'Social Change in the Southern Gilbert Islands', p. 137.

17 *Ibid.*, p. 138.

18 Townsend, *op.cit.*, pp. 4-5.

19 *Ibid.*

20 A full list of these lands is given in Appendix 4.

21 This account was given by the atu of the Karongoa boti in Tannaeang.

22 H. E. Maude, pers. comm.

23 J. Beattie, *Other Cultures: Aims, Methods and Achievements in Social Anthropology*, London, 1966, p. 143.

24 *Ibid.*

25 G. P. Murdock and S. F. Wilson, 'Settlement Pattern and Community Organisation: Cross-Cultural Codes 3', *Ethnology*, 11, 1972. Of the 64 cultures documented therein which were led by a chief or chief council, and lived in permanent settlements, 35 exhibited a nucleated structure, and 45 were either totally nucleated, or partially dispersed around a central core. Of 21 villages where the most impressive, elaborate, or largest village structure was a residential establishment, all were politically led by a chieftain or headsman.

26 After B. Malinowski, *The Sexual Life of Savages in Northwestern Melanesia*, London, 1929.

27 Lundsgaarde, 'Social Change in the Southern Gilbert Islands', p. 7.

28 *Ibid.*

29 *Ibid.*

30 The bubuti is a request from one individual to another, usually in utu relationship, for goods or services. Such a request could not be refused.

chapter 5

ARTICULATION AND USE OF SPACE WITHIN THE KAINGA

5.1 INTRODUCTION

The previous chapter analysed the spatial differentiation of the traditional Gilbertese community in terms of its relation with social and political structure. The analysis indicated the various spatial units of which the community was composed, and the level of operation of each of these units. This section explores in greater detail the operation of one of these units, the clan hamlet, or kainga.

5.2 SPATIAL ARTICULATION OF KAINGA ESTATES AND SOCIAL STRUCTURE

5.2.1 Population

It has been seen that there were two formal descent structures operating in traditional Gilbertese society, the clan and the utu. Of the two groups based on these structures, it was the clan which formed the active social group where members were in regular day-to-day interaction. The territory which the clan communally inhabited was the kainga.

As the co-operation between clans in daily social and economic affairs was minimal, it was the kainga which was the basic social and residential unit within the maneaba community. The maneaba community was a more loosely knit grouping where social interaction took place only on isolated occasions.

On the basis of total community population and the number of clans within a community, kainga populations should have averaged 25 - 40 persons. It is possible that, particularly for the larger clans, this figure may be slightly low. Maude notes that at Nuka on Beru the kainga of Te Kaotirama held four houses, and that some held five or six and exceptionally up to twelve.[1] Elsewhere, he notes that in 1931 the average population/household was 4.38 and suggests that

pre-contact figures were even higher.[2] These figures would suggest a range of kainga population of 18 up to 53. Evidently, kainga populations did vary considerably, and depended to a large extent on the capacity of any particular kainga tract to support the total clan population. It has been shown that population pressure alone made it necessary for many clans to maintain subsidiary kawa and in some cases to establish separate kainga to support the members of their group.

As it was always desirable to maintain residence on a kainga, there existed alternatives whereby members of an over-populated kainga did not necessarily need to transfer their residence to a kawa.

The first alternative was for an individual to establish residence on the kainga of one of his grandparents. The order of preference given by Maude is as follows:

a) Father's mother's kainga
b) Mother's father's kainga
c) Mother's mother's kainga.[3]

Secondly, and less desirably, it was possible for an individual to transfer residence to the kainga of his spouse. This expedient was, however, more usually a response to the location of an individual's main buakonikai lands than to population pressure on his father's kainga.

In either case, it was necessary for the transfer to be agreed to by the head of the new kainga. Informants stated that it was possible for such an individual either to maintain his original boti affiliation or to take up a seating place in the boti of his newly adopted kainga. As a general principle, a member of a strong or important clan would attempt to maintain affiliation with his father's clan, while a member of a lesser clan would look favourably upon

the opportunity of joining a stronger or more prestigious group. These exceptions apart, the over-riding principle remained that an individual would always attempt to maintain residence on the ancestral kainga.

5.2.2 Population Distribution and the Internal Articulation of Kainga Space

The total kainga population did not reside together but were divided into discrete groupings known as mwenga, each of which occupied separate territories within the kainga. Each mwenga was a family unit.

Thus the eldest male descendant of the clan founders occupied and headed one mwenga and, in addition, owned the kainga land tract itself. This man was accorded the title of Atu-n-te Kainga.

As his sons married, they would leave his mwenga and establish their own mwenga elsewhere on the kainga site. They would head their own mwenga, but would still be responsible to the Atu-n-te Kainga. As his daughters married, they would leave his kainga and reside on the kainga of their respective spouses.

Upon the death of the Atu-n-te Kainga, it was customary for the eldest son to return to his father's mwenga and re-establish his household there, at the same time taking over the title of Atu-n-te Kainga.

It is not clear whether there existed a formal system for the placement of mwenga within the kainga site. Informants on Onotoa knew of none, though one recalled visiting an ancient unoccupied kainga site on Beru where the remains indicated four mwenga arranged in a square pattern some hundred metres apart, and placed diagonally on the kainga site.

Maude supplies details of a Karongoa kainga as it was described in the legendary account of the internal Karongoa kainga partition made by Teinai III about the year 1675.[4] Teinai had four sons, and the mwenga which they occupied were named Natu-n-urea, Tauan-te-Buangai, and Atuni Keibu. The home of the eldest son stood on the west side, the second on the east, and the third on the south; his fourth son was lost at sea, and so there was no mwenga for him, but a fourth establishment, known as Tannakon Riki, stood to the north. Though this is similar to the arrangement described by the Onotoan informant, the evidence is too slight to put forward such an arrangement as customary practice. Furthermore, it gives no indication of the placement of extra mwenga elsewhere on the kainga site. It is noteworthy, however, that the Atu-n-te Kainga occupied the westernmost kainga. By occupying this position, his mwenga would be the first approached by visitors, arriving as they would at the lagoon frontage.

The above-mentioned practice of allocating names to mwenga is the only example collected, and it is unclear whether this practice was common, or restricted to only a few groups. Even the head of the Karongoa clan on Onotoa was ignorant of the practice, and could assign no meaning to the names given for Teinai's mwenga.

It is quite possible that in the early history of the kainga, most of the inhabitants, in addition to being members of the same clan, were also members of the same utu. After four or five generations and increasingly so thereafter, the utu links would have become more and more tenuous or even forgotten. In addition, when, as was quite common, an individual migrated to another community or island, he would customarily take up residence on the kainga which belonged to the boti possessing the same ancestry as the one he had left behind. Though a member of the same clan by virtue of his patrilineal descent from the clan founder, he might not have been aware of any utu link between himself and any or all of the other members of the kainga.

The net result of this state of affairs was the existence within the kainga territory of a number of distinct sub-groups, the formation of which was based on the recognition of the utu link which existed between their members. Wherever possible these sub-groups would attempt to form a spatial cluster within the kainga, but they were unnamed and were not formally distinguished from the total utu complement of which they were a part.

5.2.3 Ownership and Demarcation of Kainga Territory

The whole of the kainga tract was the property of the Atu-n-te Kainga. None of the other kainga residents therefore owned land within the kainga; they were merely permitted to exercise residential rights there, the choice of location being subject to the decision of the Atu-n-te Kainga. The residential areas, or mwenga, were not physically demarcated in any way. Each kainga had its own name, as did the kawa and most buakonikai plots. The boundaries of kainga were generally marked by prominent features in the landscape - large coral rocks, coconut trees, or naturally occurring valleys and ridges. Knowledge of these boundaries was usually restricted to the owners of adjacent properties, and the lack of precise definition was frequently the cause of property disputes.

The exception was the O (lit. fence) or fenced kainga. Fences were reported by early European visitors to the Gilberts on Beru and Tabiteuea, and were described as coral stone walls about six feet high enclosing several houses. Commenting on the O, Maude postulates a number of reasons for their existence, including defence and privacy.[5] He suggests that it may have been customary for those kainga which were at some remove from the main group to use the fences for defensive purposes. In addition, some clans, such as Te O, who were the traditional clan of sorcerers, may have used fences to ensure privacy for their secret act-

ivities. This postulate would seem to be vindicated by their clan name. The building of fences does not, however, appear to have been a common practice, and informants on Onotoa reported that they were not built there. Though Maude referred to them as enclosing kainga, Onotoan informants suggested that fences, if built, would probably have only enclosed residential areas of the kainga and not the whole land tract.

5.2.4 Social Control Within the Kainga

Each kindred group within the kainga, whether a single mwenga or a collection of mwenga, was headed on the basis of the age-grade/status system and thus by the most senior of its members, its unimane.

Where decisions were to be made affecting the whole complement of kainga residents, they were made collectively by the unimane of each kindred group, with the final decision in the hands of the Atu-n-te Kainga. The semi-formal meetings held for this purpose took place in a structure known as the uma-ni-mane (lit. men's house). It was the only permanent structure apart from the mwenga to be found on traditional kainga sites, and every kainga possessed one.

(a) Structural form of the uma-ni-mane

As there are no longer any uma-ni-mane in existence, the reconstruction of the form of this building is based entirely on comment by informants. In addition, as detailed discussion of the two principal architectural structures, the maneaba and the mwenga, is yet to come, analysis is restrained and not related to Gilbertese constructional practice on a broad scale. The Gilbertese describe the uma-ni-mane as being a small version of the maneaba. Being on average eight metres in length, the span of the uma-ni-mane was about one-quarter that of the average maneaba. As it was so much smaller, the uma-ni-mane was therefore constructed

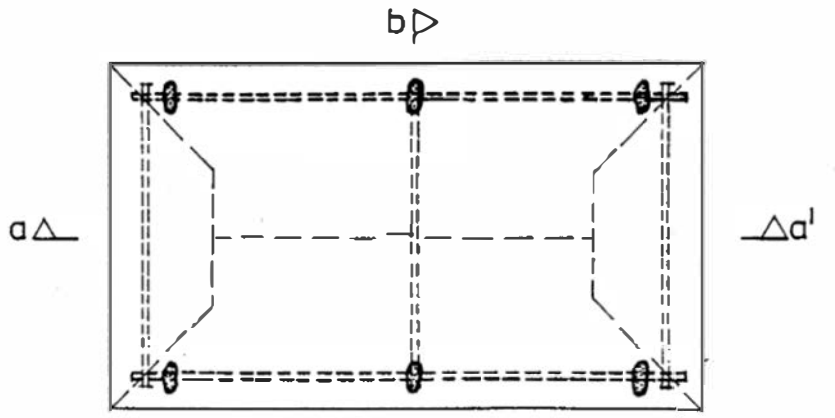
very differently from the maneaba. What was reproduced, on a smaller scale, was the form of the maneaba roof. See figure 1. Construction details are tabled below.

Element	Materials	Size/Proportion
Roofing	pandanus thatch	-
Roofing structure	pandanus timber	pitch, number of rafters, jointing details and lashing details matched the maneaba with which the kainga was associated
Posts	pandanus or limestone	six posts, of the same height as the maneaba
Floor	coral gravel on earth with coral stone border to same area as eaves lines, plus a layer of matting	plan proportions as used for the maneaba
Footings	large beach pebbles	300 - 500mm square

(b) Use of space within the uma-ni-mane

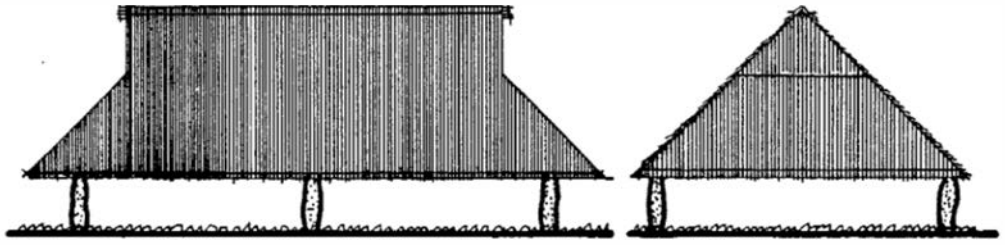
Though used for other purposes, the uma-nimane was primarily the centre for the management of clan activities and affairs, the responsibility for which lay in the hands of the unimane. The nature of this management varied from the informal to the formal, depending upon circumstance.

The uma-ni-mane was also the old men's clubhouse, a place to which they could repair, away from the domestic environment of the mwenga. For most of the day, the mwenga was



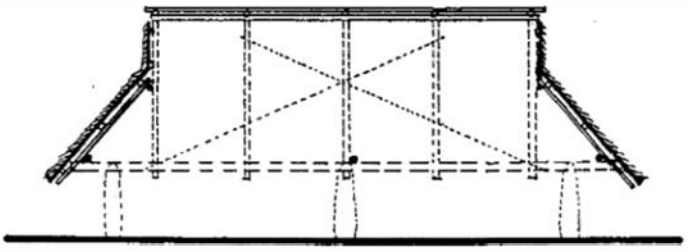
GROUND PLAN

b'

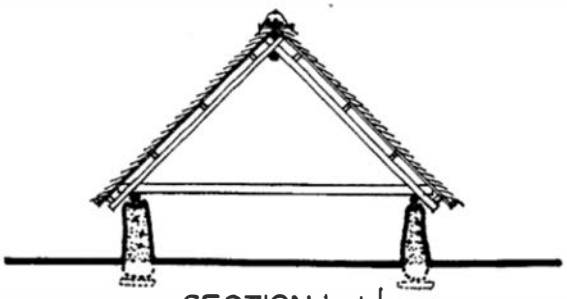


SIDE ELEVATION

END ELEVATION



SECTION a-a'



SECTION b-b'

UMA-NI-MANE: CONSTRUCTION DETAILS

FIGURE 1

the domain of women and children. This was so partly because men spent the daylight hours either fishing or engaged in agricultural activities on their buakonikai holdings, and partly because women were generally not permitted to venture unaccompanied by their menfolk outside the limits of the mwenga.

As it was considered unmanly to be seen too often in the company of women, the uma-ni-mane was used, on a daily basis, by the unimane as a place where they could meet exclusively in the company of their own sex. To this end, women were not permitted to use the uma-ni-mane. It should be noted that, as with most cultures, but reinforced by the age-grade system operating within Gilbertese clan groups, individuals tended to form the strongest friendship ties with members of their own age-group. The uma-ni-mane was thus not only the place where the unimane could meet with members of their own sex, but, more specifically, with their own groups.

These informal gatherings were specifically labelled kakakibotu by the Gilbertese. The term did not refer to those participating in the gathering, for any social group could kakakibotu; what it specified was the nature of the activities which took place. The term is difficult to translate but the Gilbertese themselves contrast it with the term botaki, which is a more formalised gathering, ranging from what in English could be termed a party up to a programmed ceremony. To kakakibotu, on the other hand, was merely to relax and engage in idle conversation. Basically all that was required of participants was their presence.

Typically then, the unimane would retire to the uma-ni-mane where they could talk if the occasion demanded, but also pursue sedentary tasks such as the production of fish-hooks or the repair of fishing nets. They might even sleep. During these times, the everyday running of the clan was

note: page 169 missing from Hockings thesis

was always made to avoid an outbreak of hostilities by the process of debate. In this way the uma-ni-mane functioned as a court of law for the kainga. Similarly, the uma-ni-mane was used for meetings to decide clan consensus on matters due for discussion at community level within the maneaba. These opinions would then be put forward by the Atu-n-te-Kainga when the maneaba meeting took place. For formal meetings, all unimane both within the kainga and also in its subsidiary kawa would attempt to be present.

Historically the uma-ni-mane had existed prior to the period of maneaba building introduced by Tematawarebwe. Unlike the maneaba, it had no precise division of internal space corresponding to the boti divisions within the maneaba, and the seating places of the various unimane were random and changing. Despite the large measure of unification brought to the islands by the Karongoans and their maneaba, the persistence of uma-ni-mane on the kainga sites stood as visible evidence of the still considerable independence of the various clan groups.

Though the uma-ni-mane was used for other purposes (to be discussed in the following section), it occupied an important position within the kainga as a hall of discussion and debate. Its restricted patronage by the elder male clan members was visual evidence of the authority and status which these individuals possessed. Finally, the right of entry which extended to all male clan elders represented (despite the existence of an Atu-n-te-Kainga) the democratic nature of this authority.

5.3 THE KAINGA AND MAGICO-RELIGIOUS ACTIVITIES

5.3.1 Introduction

Though there is evidence to suggest, particularly immediately following the Samoan invasions, that the maneaba was a very

important centre for religious activity, religion and magic were primarily associated with the clan and the individual. This section investigates these activities in relation to the clan and the kainga estates. It is not the purpose of this thesis to analyse in depth the place which magico/religious ideas and activities occupied within Gilbertese culture; that subject is a vast topic in itself. What is attempted is a broad classification of those aspects of religious activity which were associated with built form in the Gilbertese community.

5.3.2 Totems and Deities

Each clan within the group was associated with a feature of the natural environment, the most common being plant and animal species.[6] This association, found in cultures throughout the world, is usually labelled by anthropologists as totemism. Attempts to establish some common 'purpose' or 'function' which this practice serves have led to postulates ranging in their nature from economic to social, psychological, and philosophical. The economic and social theories met with as many exceptions as they did confirmations, whilst the latter two theories, especially those stemming from Freud and Lévi-Strauss, were generally logically untestable. Each had its point to make, but it would appear that the institutions which have been described as totemic are so varied in their operation that no single hypothesis is likely to adequately explain them all.

Within the Gilbertese clans, the clan member's relationship with his totem varied according to the nature of the totem itself. Living creatures could not be killed, and edible creatures and plants could not be eaten. Trees and plants could not be cut, climbed, or their flowers picked. Natural elements such as the sun or the wind could not be alluded to disrespectfully. Stones and coral could not be trodden on. In this respect, the totem appears as a symbol of social

behaviour. Grimble was informed that an individual who would eat his totem would also not hesitate to indulge in incest.[7] The reason for this was that the totem was regarded as a clan member, or even as the 'whole clan', and thus the eating of a totem was the equivalent of incest. On this basis, the following table has been drawn up.

Totem	Act Performed on Totem	Social Equivalent
Living creature	killed	murder
Edible plants or creatures	eaten, chopped, or picked	incest
Stone, coral	trodden on	violation, disrespect
Sun, wind	treated disrespectfully	discourtesy

It is evident that the use of, and nature of the relationship with, the totem was socially significant. Firstly, the common totem shared by the clan members, and its oneness with the clan, signified the clan's social unity. Secondly, the relationship with the totem signified which relationships between clan members were socially acceptable, and which activities or relationships were specifically prohibited.

With the exception of a few totems whose origins could not be traced, the clan totem was associated with the clan deities.[8] All the Gilbertese clans regarded themselves as descendants of one or more deities. Those clans which originally came from Matang and 'the lands to the west' were descended from the tall, light-skinned, red-haired anti who inhabited those lands, the most notable of whom were Auriaria and Nei Tituaabine. Those clans which were

descended from the anti who originally inhabited the group and were subsequently conquered by the Auriaria folk retained their original deities, although some fusion of deities evidently took place. Notable among their anti were Bakoa and Tabakea.

The anti were the true founders of the clans and were regarded as gods. The sharing between a number of clans of the same anti indicates that there were once many fewer clans occupying the Gilberts than was the case immediately prior to European contact, a point which has also been made in the discussion of the formation of the boti. Under varying pressures the major clans sub-divided, in some cases the original link being almost forgotten. In other cases, these clans occupied adjacent places within the maneaba, indicative of the fact that the ancestral bonds were still recognised.

The physical form which the anti assumed varied considerably.

(a) In some cases the anti took the form of plant and animal species as in Bakoa (shark), Tabakea (turtle), and Riiki (eel). Where this occurred, the clan totems were the same species as the anti and the two, totem and deity, were indistinguishable.

(b) Alternatively, the anti and the totem were less closely allied, with the form of the anti being either human or unspecified. In such cases, the totem was a plant or animal held in close affection by the anti or one which rendered the anti some assistance in his/her exploits. Thus, in the Keaki legend, Nei Tituaabine is seen in close association with the Red-tailed Tropic Bird, and the two subsequently became the anti and totem of the Keaki clan.

These two procedures for the acquisition of clan totems were not mutually exclusive, which explains in part the existence of multiple clan totems. In addition, totems could be acquired by the fusion of clans, and by historic association with descendants of deities, i.e. the semi-deified ancestors or anti-ma-aomata.

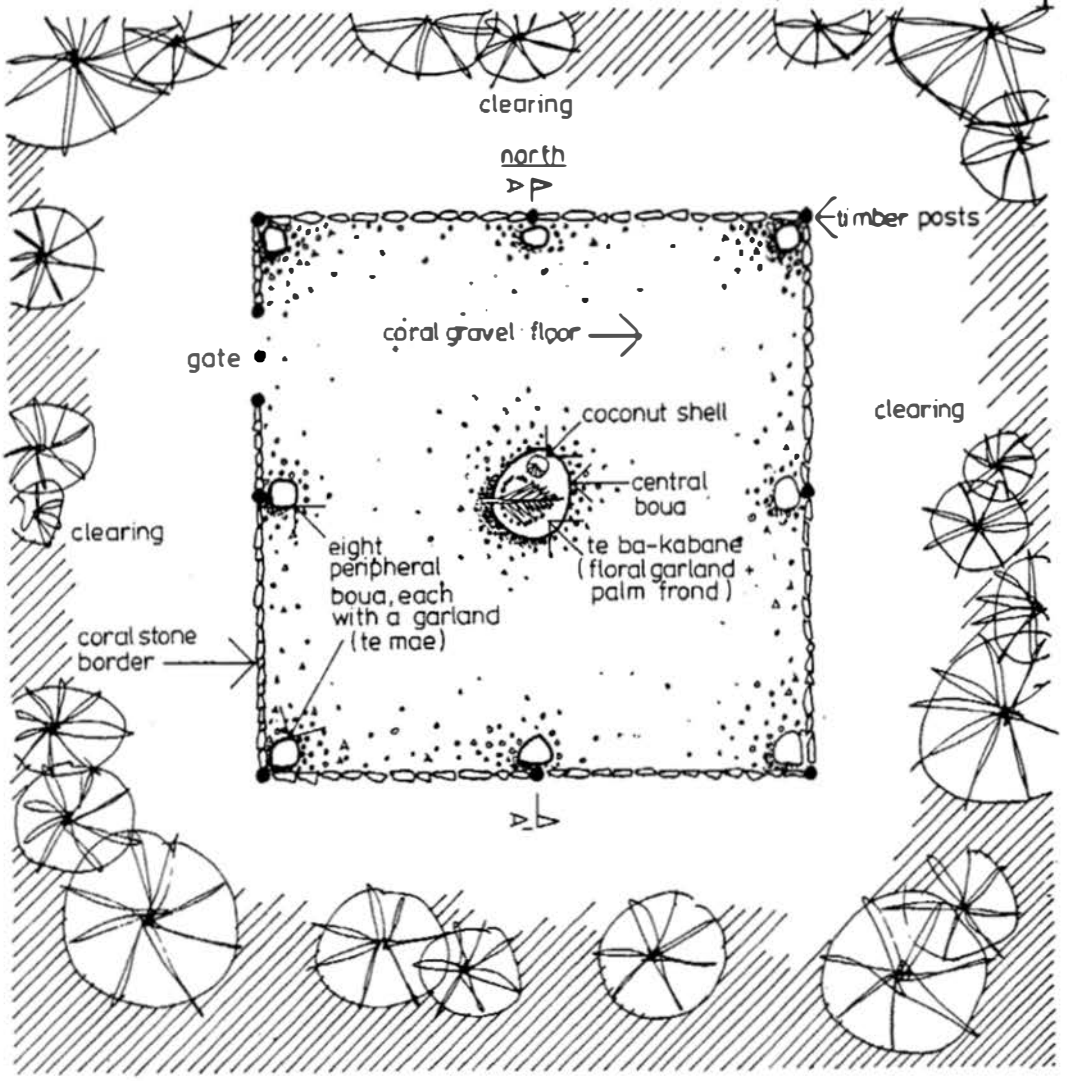
The clan anti, and indirectly the clan totem, were worshiped at shrines known as bangota.

5.3.3 The Bangota

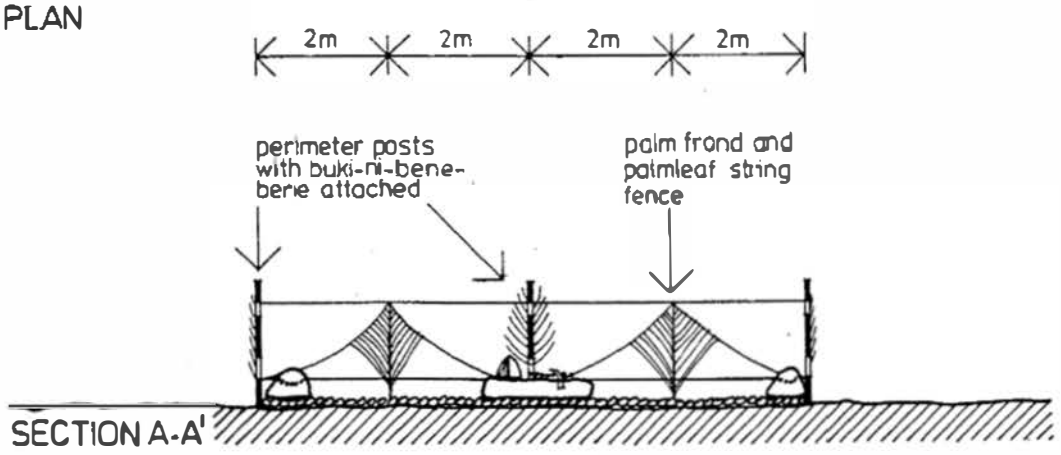
(a) The form and siting of bangota

These varied in detail from clan to clan, but in principle were similar. The main and central feature of all bangota was a stone slab, te boua-n-anti (lit. the stone of the gods). Hewn from coral beachstone, its form varied from a flat slab laid on the ground to an egg-shaped pillar standing some 500cm high or a tall vertical column up to 1500cm in height and some 750cm square. The boua was said to be the rabata (lit. solid) of the anti; that is, though not actually the anti itself, it was the representation of the anti or the medium through which the anti could be reached.

Surrounding the central boua was a flat area of atama (coral gravel) bordered by a low strip of coral rock. The area and shape of the coral surround varied with the individual decision of the designer/builder, but it was affected by the manner in which the space was used by the worshipers. Where no provision was made for worshipers, the coral gravel extended only one or two metres around the central boua, in either a square or circular plan form. Alternatively, the gravel could be spread over a larger area (approximately eight metres square) to include the principal worshipers. See figure 2.



PLAN



SECTION A-A'

DETAILS OF BANGOTA FOUND AT TEMAO, ONOTOA
SCALE 1:100

FIGURE 2

Around the central boua and slightly protruding above the surface of the atama were placed the skulls and bones of the clan ancestors, the slight protrusion allowing the skulls to be periodically anointed with oil. Also adjacent to the boua on the western side was a small, flat stone, approximately 500cm in diameter, upon which were placed the various offerings which were made to the anti. Where the central boua was low and flat this stone was not required, and offerings were placed directly upon the boua.

At the Temao bangota on Onotoa, subsidiary boua were placed at strategic points around the perimeter of the bangota (see also figure 2), these representing the minor deities of the clan.

In general, bangota were located close to the eastern beach, this region being regarded as the domain of the anti and the dead. They were kept out of public view, hidden in scrub and away from trafficked paths. To be found in the vicinity of the bangota was forbidden to all but the residents of the kainga to which it belonged.

In some cases, however, the bangota appears to have been associated closely with the uma-ni-mane, which would have located it close to the western lagoon shore. An historic example of this practice is given in Maude's account of the internal partition of the Karongoa kainga on Beru.[9] In the north of this kainga was a structure known as Tannakon Riiki which was the Karongoa uma-ni-mane. In the north of this house was a boua where Beia and Tekai were worshiped. Though these two individuals were undoubtedly human, they had been elevated to a position of such importance within the Karongoa clan that they were worshiped as deities.

The proliferation of boua and bangota in pre-contact times, some associated with the mwenga, some with the kainga, and some even with the maneaba, has led to some confusion in

the minds of Gilbertese as to their respective sitings. Additionally, depending upon the number of clan anti and the degree of importance which was attached to them, it was often the case that kainga possessed more than one bangota. The siting of the bangota adjacent to the uma-ni-mane was a natural choice as many clan ceremonies took place there, most of which had a religious aspect. However, if uncertain of detail, the Gilbertese still maintain that the majority of and the most important kainga bangota were situated close to the eastern beach, this mystical region being the only truly appropriate site for these sacred shrines.

(b) Use of space within the bangota

Assemblies held at the bangota were termed Tola, a word which may be related to the Samoan term, toal, meaning feast. Tola could be held for a number of reasons. They were held regularly purely for the purpose of worshiping the anti and paying respect to the ancestral shades whose earthly bones lay there.[10] There were also seasonal tola, held to enlist the help of the anti in ensuring bountiful harvests, particularly with respect to the pandanus fruitification and fishing expeditions. And sporadic tola were held whenever a major crisis arose, usually war, drought, or famine.

Tola included most of the kainga inhabitants, including women but not necessarily children, and were presided over by the Atu-n-te-Kainga or an ibonga (lit. sorcerer). Seating places were semi-formalised, though they appear to have varied with different bangota.

At the Temao bangota, the ibonga and elders sat along the northern edge of the square and the remainder along the other three sides. Alternatively, the entire company sat in rows with the senior male sitting slightly forward and to the centre close to the boua.[11] Everybody sat in the

classic ritual position, that is facing the east, and for this reason the latter was probably the more common arrangement.

Meetings normally took place either at dawn or sunset as did the majority of ritual practices. The sun, Taai, and the moon, Namakaina, occupied an important place in Gilbertese religion, in all likelihood the remnant of a sun/moon cult from an earlier period. They occupied a position equal to if not higher than that of Auriaria himself and almost every incantation was firstly directed to them. Permission to enter the bangota on the occasion of a tola was indicated by the presence of te bakabane or buki-ni-benebene (see also figure 2), these being palm fronds which were placed on the boua and around the perimeter of the bangota. Should the inside of the leaves face outward from the fence or downward onto the boua, the meeting was not yet open and the bangota would not be approached. Once the frond was reversed, the meeting could begin.

The meetings were a combination of ritual (te kawai) and incantation (te tabunea), the one being powerless without the other. Though the tabunea varied with the occasion, the kawai was generally the same. Participants, or occasionally only the leader, wore a coconut leaf fillet upon their heads or arms. The ritual consisted firstly of offering sacred food to the anti (te kare boua) followed by the sharing of the remainder of this food amongst the participants. Unlike many other totemic groups, the Gilbertese clans did not sacrifice or ceremonially eat their totems on these or any other occasions. The offering to the gods was accompanied by the relevant tabunea, whilst the consumption of the remaining food was performed in silence. Following the ceremony, the crania of the skulls buried in the bangota were anointed with oil, and any food remaining was left as a final offering to the anti and ancestral bones.

To the islander, spiritual presences exerted their influence over every aspect of his day-to-day existence. The world of religion and ritual activity was not separated from the normal and mundane conditions of daily life but was an integral part of them.

The bangota and the activities which took place there occupied an extremely important place within the kainga. It was at the bangota that the presence of the supreme clan gods and ancestors was to be found, and here spiritual worship was at its purest and most profound. Even the maneaba, itself a sacred tabernacle, was also a place of debate, a hall of the living. The bangota, on the other hand, was exclusively the home of the spirits and the dead, the spiritual centre of gravity of the kainga. Through the bangota the kainga acquired its status as a sacred site, the home of the clan anti and ancestors.

5.4 THE KAINGA AND SOCIAL RITUAL

5.4.1 Introduction

The life continuum of the Gibertese individual was divided into a number of distinct stages, each of which determined that individual's social status. The passage from boyhood to warriorhood, from girlhood to womanhood, was marked by elaborate ritual. This ritual involved the use of architectural structures other than the mwenga and the uma-ni-mane.

It is uncertain to just what extent these affairs, particularly the concluding feast where many participants were present, were the concern of the clan or the utu. In all likelihood, the initiation ceremonies involved both the clan and the utu, the latter including utu who were affiliated with clans other than that of the initiate. As the ceremonies undoubtedly took place on clan territories, the discussion is included in this chapter.

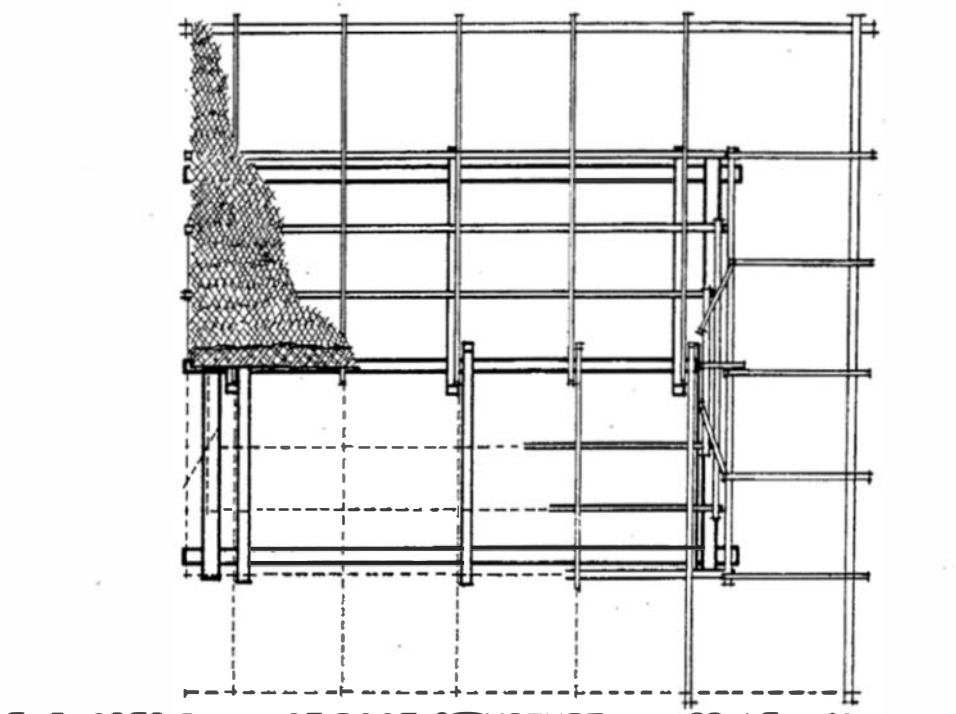
5.4.2 Male Initiation

At about the age of 10 the young Gilbertese boy left the mwenga of his father and went to live in the mwenga of his paternal grandfather, where in addition to providing for the unimane he began his instruction in the crafts, genealogies, and ancestral cults of his clan.

By the age of 25, sometimes as early as 20, he was considered ready to undergo the intensive trials and rituals known collectively as te kanna ni mane (lit. diet of a man). Some four months after the inception of this phase of the initiation, both he and his adoptive grandfather moved residence to the uninhabited eastern side of the island, where a small hut of pandanus thatch was built for them. This hut, apparently unnamed, was of a size sufficient to take the sleeping mats of the two males, that is approximately four metres by three metres. The structure was lightweight, and, in line with its semi-permanent nature, of rough construction. See figure 3.

Form and construction detail were not required to conform to any set pattern, and could be varied according to the will of the builder. In this respect, the initiate's hut belonged to the broader class of semi-permanent structures usually found on buakonikai lands. These structures were built by individuals who left the mwenga for extended periods to reside on bush land-holdings which were too distant from the mwenga to allow for work on a daily or even weekly basis.

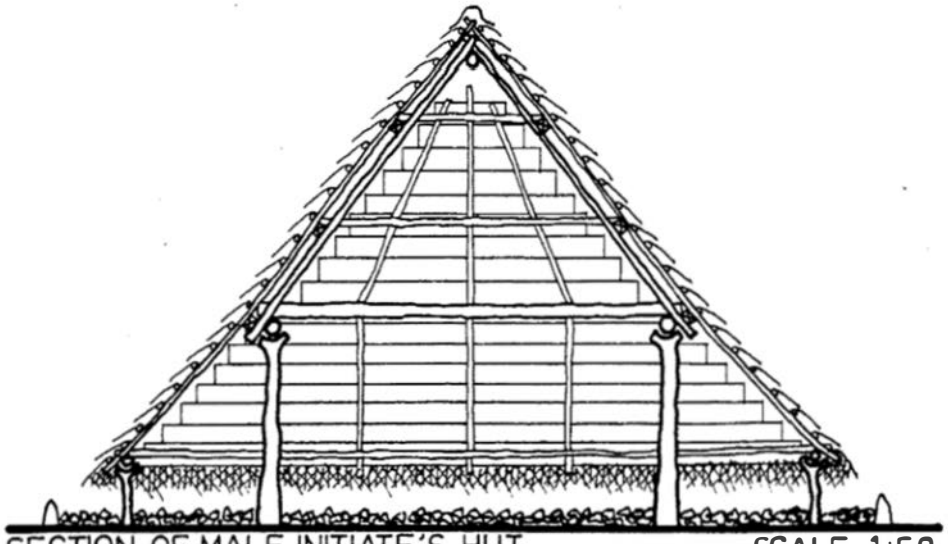
While design and constructional practice were not culturally constrained, the same principles used in formal domestic construction were applied on a smaller scale to bush structures, with some minor variations. This was obviously due in part to the undesirability of departing from standard constructional practice which had been well learnt, of proven performance, and easily adapted to a smaller scale. In



EXPLODED PLAN OF ROOF STRUCTURE SCALE 1:50

SIDE ELEVATION
SCALE 1:100

FRONT ELEVATION



SECTION OF MALE INITIATE'S HUT SCALE 1:50

FIGURE 3

addition, however, it was believed that particular details of construction, such as the pitch of the roof or the order of laying thatch, had important implications for the well-being of occupants. It was natural therefore that any individual, particularly when faced with the prospect of dwelling in isolation on the awesome and mystical eastern shore, would not court disaster by choosing to ignore such customs.

A significant variation from domestic construction which was to be found on most bush houses was the addition, usually to three sides, of a substantial eaves overhang extending to within 30 centimetres of the ground. See figure 3. This was not for protection against rain as the Gilbertese used woven coconut screens hung vertically from the eaves to perform this function. Primarily the low eaves were a protection from surprise attack by an intruder. Whereas the standard eaves height permitted entry from any side of the building, it was physically impossible to enter a structure with lowered eaves from any side but the front, and from there only by assuming a crouching position.

The initiate's hut was sited on the eastern shore to ensure isolation during his period of confinement. Neither women nor children were permitted to approach the place, and his only contact was with the senior male members of his family and clan. Working daily with his grandfather and undergoing various tests of his manhood, the initiate would remain in isolation until the pandanus thatch 'began to rot and leak'.[12] Though perhaps metaphoric in intent, this would imply a period extending from two-and-a-half to five years, dependent upon rainfall conditions. Upon completion of the initiation tests, the initiate would return to his home where, in conjunction with a formal and elaborate ceremony, he would acquire the title of rorobuaka.

5.4.3 Female Initiation

The young Gilbertese girl, following the advent of puberty, was taken in hand by her paternal grandmother and instructed

in the ways of Gilbertese womanhood. Though it was possible for a young girl to marry immediately following the completion of the ritual which accompanied her first menses, it was more usual for her to pass the next 12 to 18 months in a structure known as the ko, or bleaching house. This, like the hut of the male initiate, was a small house built especially for the purpose and generally, though not always, situated on the eastern shore. About the same size as the male initiate's hut, it nevertheless differed in form. Externally the bleaching house was a small version of the mwenga, with a pitched pandanus-thatch roof supported on four corner posts with a small eaves overhang. Woven coconut screens were hung from the eaves to the ground on all four sides. An arrangement of pandanus mats, hung on a light framework, formed an inner sanctuary separated by a metre-wide corridor from the outer layer of screens. This inner space was almost devoid of light. See figure 4.

The purpose of the ko was to totally shield the skin of the young girl from the rays of the sun. Fairness of skin was considered a mark of great beauty, a concept stemming from tales of the fair-skinned gods and ancestors from the land of Matang. The young girl remained almost constantly within the inner cubicle, venturing into the outer corridor only to perform her toilet and ablutions. Unable to work because of the darkness, she was instructed by her grandmother in the use of spells, especially those to do with love, healing, and the culinary arts.[13] When her skin could lighten no more, she returned to the family house where she underwent a series of rituals designed to prevent misfortune throughout the rest of her life.

5.4.4 Summary

As each initiate dwelt in an individual structure, and the majority of youths, certainly all males, underwent initiation ceremonies, the structures which were associated with these

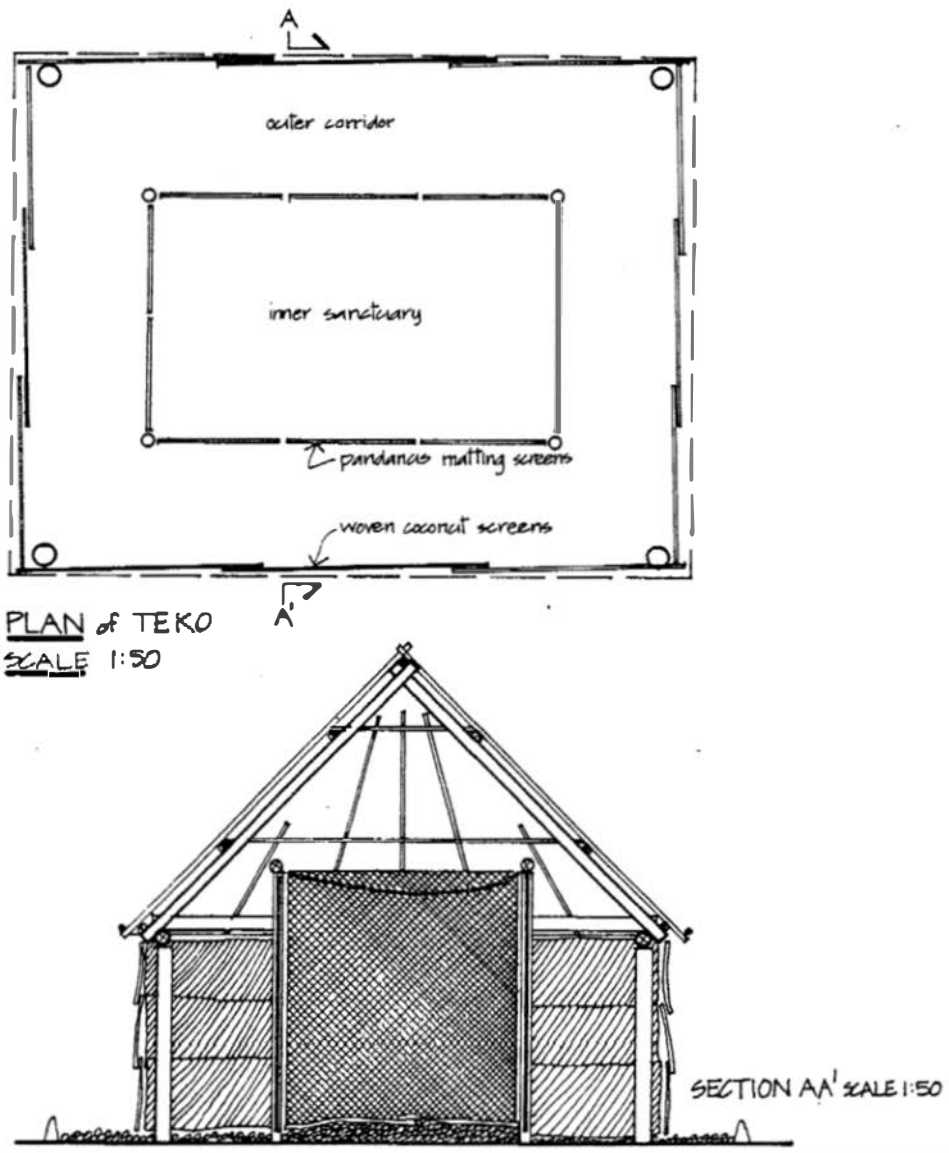

A
outer corridor
inner sanctuary
pandanus matting screens
woven coconut screens
A'
PLAN of TEKO
SCALE 1:50
SECTION AA' SCALE 1:50

FIGURE 4

rituals must have formed a significant feature of the built environment on the Gilbertese atoll. Yet to the Gilbertese they apparently held little import. Though it may well be possible that a different situation existed in ancient times, it appears that it was the rituals themselves rather than the structures which were important to the Gilbertese. Apparently no specifications were outlined for their construction, and no rituals accompanied their erection. Nevertheless they serve to illustrate a number of important points.

Firstly, their isolation on the eastern shore is further evidence of the awe in which this spatial segment of the atoll environment was held. Though the atolls could scarcely be described as being under extreme population pressure, it has nevertheless been seen that the majority of clans were forced to establish one or more kawa to hold populations which could not be allocated residential space within the kainga. Where the definitely preferred place of residence was the kainga, it is notable that individuals would reside on kawa rather than dwell on the eastern half of the kainga where ample dwelling space was available. This point is further reinforced by the fact that the eastern stretch of the atoll has a preferable micro-climate. Protected from the periodic westerly storms and the stench of the lagoon at low tide, the eastern shore is almost always cooled by the 10 - 15 knot ocean tradewinds. These winds bring with them the added advantage of dispersing the swarms of mosquitoes which flourish along the western shore.

Secondly, as the buildings were not carefully articulated structures and served almost exclusively the functional purposes of protection and enclosure, they stand in marked contrast to those other structures, notably the maneaba and the mwenga, which though performing the same utilitarian functions were, in addition, heavily overlaid with symbolic content.

1 H. E. Maude, *pers. comm.*

2 Maude, *The Evolution of the Gilbertese Boti*, p.31.

3 *Ibid.*, p.34.

4 *Ibid.*, p.31.

5 *Ibid.*, p. 33.

6 A list of the principal clans and their totems is given in Appendix 5.

7 A.F. Grimble, 'The Clan and the Totem' unpublished manuscript in possession of H. E. Maude.

8 *Ibid.*

9 Maude, *The Evolution of the Gilbertese Boti*, p.31.

10 The interval of these meetings could not be accurately ascertained. They were not associated with any fixed dates but it was suggested that about every six months was a likely interval. Random meetings occasioned by particular circumstances would often occur between regular meetings.

11 Grimble, *Migrations, Myth and Magic from the Gilbert Islands*, p. 200-201.

12 *Ibid.*, p.76.

13 *Ibid.*, p.81.

chapter 6

ARTICULATION OF SPACE WITHIN THE MWENGA

6.1 INTRODUCTION

6.1.1 The Mwenga

Within each kainga there existed a number of residential sub-groups which were known as mwenga. The term itself could be used to describe the physical spatial unit, the residential population of that unit, or the combination of both. The English equivalent of the term would be either house or household depending upon the sense intended. Mwenga membership was based on residential status. Should a child leave the mwenga and reside elsewhere he was no longer a member of mwenga. Alternatively, should a person request or be invited to reside with a particular mwenga, he was regarded as a true member of that mwenga, whether he was consanguineal kin or not.

6.1.2 Spatial Composition of the Mwenga

The mwenga as a spatial unit was composed of:

(i) residential structure/s
(ii) external spaces adjacent to the residential structure/s and used on a daily basis
(iii) storehouses and other ancillary structures

Each mwenga also typically possessed a bareaka (canoe shed) but this was generally positioned on the lagoon shore at some remove from the mwenga.

6.2 THE MWENGA AND SOCIAL STRUCTURE

The mwenga can be most easily seen as a family unit. This applies in two senses. Firstly, of all the social groups within Gilbertese society, the mwenga was the only group in which all members were in day-to-day social contact, were united in economic co-operation, ate together, slept

together, and were generally concerned with the welfare of each and all of their company.

Secondly, the majority of the residents within the mwenga were closely united on the basis of consanguinity. Those who were not in this relationship were either adopted kin, slightly distant utu members in the identity sense, or close friends who could be regarded as utu in the conduct sense.

As a result, the composition of each mwenga varied considerably. It is possible to indicate the most commonly occurring mwenga population profiles, though a statistical breakdown of their occurrence on kainga sites in traditional times is of course impossible to reconstruct.

6.2.1 Mwenga Profiles

Type 1

Customarily, the formation of mwenga was coincidental with the marriage of two individuals. A commonly occurring mwenga group thus consisted of a newly married man and his spouse. Post-marital residence was typically patrilocal, that is, the newly married son remained on his father's land. As marriage was exogamous, the female spouse was required to leave her parents' kainga and take up residence on the kainga of her husband, whereupon her clan allegiance became that of her husband.

The new mwenga was normally established close to that of the male spouse's parents, this being done for two principal reasons. Firstly, the newly married son would continue to perform a large number of economic tasks, particularly fishing, in co-operation with his father and brothers. Even where active participation in joint activities did not occur, food resources were still shared between the two households, it being often difficult for the still child-

less couple to provide, on a daily basis, all the various foodstuffs which they needed. This situation continued to exist, especially after the birth of children, until the offspring reached an age sufficient for them to assist in the economic tasks of the mwenga.

Secondly the new wife was required to participate actively in the affairs of her husband's parents' mwenga. As a new addition to the clan and in the conduct sense, the utu, she was taken in hand by both her mother-in-law and grandmother-in-law. Forbidden to venture outside the mwenga alone, she became their constant companion. As her husband's sisters married and left the mwenga, so she and her husband's brothers' wives took over a similar economic position in the family to that which her husband's sisters had once occupied. In addition, through the tinaba and eiriki relationships which existed with her brothers-in-law, father-in-law, and uncles-in-law, the new wife was expected to attend to the general welfare of these men. This situation was usually encouraged by her husband because of the land gifts which customarily accompanied such relationships.

Though Gilbertese marriage was in one sense monogamous, in that a man selected a particular girl to become his wife and was thereafter regarded as being married to her, it was not unusual practice, should the man so desire, for the spouse's sisters to accompany her to her husband's mwenga and in effect to become his wives as well.[1] In such a case, his extra wives resided with him in his own house or in another attached to the mwenga, or in the mwenga of his father. The exact situation is unclear in the minds of contemporary Gilbertese, and furthermore appears to have varied most from island to island. The practice appears to have been most common where marriage did not necessarily involve a formal ceremony, in particular on the islands of Beru, Tabiteuea, Nonouti, and Onotoa. Where an individual did request or enforce the accompaniment of his wife's

sisters with her to his mwenga, they became his responsibility and were under his authority. Though potentially his sexual partners, he did not necessarily establish this relationship. The women remained essentially a guarantee against the possible infertility of his chosen wife, and a means of coping with a surplus female population. Though any infidelity on their part was regarded as adultery against their sister's husband, it was possible for those who remained virgins to be given as wives to either their sister's husband's brothers or even friends. They nevertheless remained potential sexual partners of the sister's husband.

Whilst the details of Gilbertese marital practice were evidently complex and extensive, in terms of mwenga population and composition it is only necessary to conclude that, in addition to his true wife, rao-ni-kie (lit. friend of the sleeping mat), a man had a number of other potential sexual partners. Of these, his wife's uterine sisters may have resided with him in the mwenga.

Type 2

The second typical population profile was probably the one most commonly occurring on kainga sites. A development of the first, it consisted of a middle-aged man, his wife/wives, and children. From the time a man was about thirty, for approximately two decades, he would have children old enough to participate actively in economic tasks while they still remained attached to his mwenga.

Though an attempt has been made, for purposes of clarity, to analyse aspects of built form as they related to discrete cultural institutions (social, political, magical, etc.), the point hasbeen made that such distinction is artificial. The discussion covering the basis of the determination of kainga population showed that the composition of the population was governed primarily by a number of cultural

constructs (relating to descent, inheritance, and marriage, to name a few) which could be collectively labelled social structure. In the case of the mwenga, however, population composition was as much based on cultural means of resource exploitation and economic management as it was on social structure. The two were inextricably linked, and are therefore discussed in conjunction within this section.

Ideally, if each married couple had produced sufficient offspring, roughly balanced in ratio of male to female in accordance with the economic tasks required for the welfare of the mwenga, then mwenga populations could have been almost totally based on social structure. That is, they could have been small extended families consisting of father, mother, and their natural children, plus grandparents.

In fact this arrangement would frequently have been achieved. Though impossible to corroborate on statistical grounds, it would seem fairly natural for the traditional division of labour both within and between the sexes to have evolved in accordance with the average composition of the family unit.

Nevertheless, it is obvious that a large number of families would not have met this ideal, even given the degree of flexibility with which the division of labour operated. This situation had important consequences leading to the evolution of a number of principles by which the composition of the mwenga population could be regulated to maintain a balanced economic unit.

Though also concerned with the inheritance of land and the strengthening of social bonds, the practice of adoption was a primary means by which an economic balance could be achieved. The practice was most common amongst couples with few or no offspring. Faced with a likely permanent shortage of labour, the adoption of a male or female child as a permanent mwenga resident counteracted this deficiency.

It is hypothesised that resort to adoption for this purpose was much less prevalent in traditional times than it is today. Those living in close contact with other utu members within the kainga could easily seek aid without the addition of a permanent member to the household. This argument would, in addition, presumably apply more forcibly to situations involving shortage of male labour than female. In the first place, the majority of male economic tasks were performed away from the mwenga and during the daylight hours, which would alleviate the necessity to 'live in'. Females, on the other hand, worked in and around the mwenga beginning in the early morning and continuing through to the late evening. Secondly, the customary gift of land which accompanied adoption would need to be substantial in the case of a male, much less so for a female.

More common than permanent labour shortages within the mwenga were periodic crises where the aid required was only temporary. Death of an adolescent child, pregnancy of a wife, the nursing of a child, or the ill-health of a family member were typical causes of such a situation. Help was recruited from within the utu, though not necessarily from that section of the utu resident within the kainga. The enlisted help remained until the crisis was alleviated, a period which could have ranged from weeks to a number of years. During this time, the individual was regarded as a true member of the mwenga, sharing the same obligations and privileges as the permanent residents.

A final point to be considered in the discussion of this second mwenga profile is the addition of visitors. Frequently individuals left their home mwenga to live temporarily in the mwenga of relatives. This was usually done in order to maintain estates too distant from the home kainga to be tended on a daily basis, but could also have been purely for social reasons. Such visits ranged in duration from a number of weeks to months or even years.

Such an individual, though a guest, was regarded as belonging to the mwenga and treated accordingly by other mwenga members and by individuals outside the mwenga. Where the boti of a guest was not to be found in the maneaba of the new district in which he was resident, it was customary for him, with the permission of the Atu-n-te Boti, to align himself with the boti of the kainga on which he was resident. Though it was unlikely that he would play any part in the affairs of the maneaba, he would nevertheless seat himself in the boti of his hosts during any ceremonies held there.

Where his boti was also to be found in the new district, it was more or less obligatory for him to reside with relatives belonging to that boti rather than with any relatives who may have been aligned with other boti in the same maneaba. It would have been extremely contentious, if not impossible, for an individual to take up even temporary residence on one kainga whilst maintaining maneaba affiliation with a boti associated with another kainga within the district.

Type 3

As the children of married couples grew up, married, and either left the mwenga or established new mwenga nearby, the married couples were increasingly left to fend for themselves. By this time they would normally have become grandparents. When this situation occurred, it was customary for at least one and normally two grandchildren to take up residence with them. This arrangement was considered ideal for both parties. The young, whilst caring for their older relatives, began in earnest the period of instruction in the ways of Gilbertese culture, and established the bond of friendship which was to carry them through the years of initiation to follow. This residential group of grandparents and grandchildren composed the third commonly occurring mwenga profile.

Type 4

The three profiles so far discussed were customary arrangements and composed the bulk of the mwenga to be found on traditional kainga and kawa sites. Deviation from these arrangements was not encouraged. In an environment where it was almost physically and socially impossible to exist outside the system, the sanctions which could be applied to deviants were extremely effective in maintaining this arrangement.

However, deliberate deviation aside, it was of course impossible for all individuals to conform to cultural norms in spite of a desire to do so. Widowed adults, divorcees, orphans, nikiranroros [2], and the physically or mentally handicapped were typical of this class of individual. It being impossible in most circumstances for them to maintain residences on their own, they sought residence with sympathetic relatives.

6.2.2 Conclusions

The mwenga, as the most active of all named social groups within traditional society, closely approximated what Europeans would term a family unit. Membership was not determined by descent but based exclusively on residential status. Membership of a Gilbertese mwenga demanded residence there as opposed to the European concept of family where one remains 'family' independently of whether one is co-resident with other family members or not. Individuals who possessed consanguineal bonds with members of a mwenga but who left that mwenga to reside elsewhere were no longer regarded as mwenga members. They of course remained as utu-ae-kaan (close relatives) and kept their kin status (son, daughter, etc.), including the rights and obligations which corresponded with that status. However, the rights and duties which corresponded with mwenga membership ceased to apply.

Mwenga membership was therefore non-static, and varied across kainga sites and through time. The lack of a specific term in the Gilbertese lexicon for family reflected this situation.

Analysis has so far concentrated on the determination of mwenga populations. Prior to a discussion covering in detail the construction of, and use of space within, the mwenga, an introduction follows as to the forms of relationship in which mwenga residents stood, one to the other.

6.3 THE MWENGA, POLITICS AND STATUS

Each mwenga was headed by its senior male member, who was accorded the title Atu-n-te Mwenga (lit. head of the mwenga). By custom, his authority was absolute within the mwenga; all decisions relating to the mwenga and responsibility for the actions and welfare of its members lay in his hands.

The same status hierarchy which applied in other sections of Gilbertese society operated within the mwenga. The reflection of this hierarchy will be seen in the discussion on the use of space in the mwenga contained in the next section.

Though outside the stated scope of the thesis, it is noted that the activities of mwenga residents, since they were somewhat out of the public eye, could more easily depart from customary practice. Thus it was possible for example, for a female with a forceful personality to hold, despite her supposedly lower status, the real authority within the mwenga even if through the voice of her husband. Nevertheless, because pressures for conformism were so high, it is likely that cultural patterns did not vary significantly from actual behaviour.

6.4 THE MWENGA: PHYSICAL FORM AND CONSTRUCTION

6.4.1 Introduction

Evidence on traditional housing form was drawn from two sources. Brief descriptions are contained in the journals of the first European visitors to the Gilberts, the earliest dating from the 1840's. More extensive and detailed descriptions were collected during 1976 from old men living in three separate Onotoan villages.

The remains of what was reputed to be a traditional kainga still exist at the northern end of Onotoa. A number of mwenga sites were identified by the low wall of coral rock which surrounded their territory and by the presence of a layer of coral gravel within these walls. There were no visible remains of the structures which had occupied these sites, and a day of excavation failed to reveal any identifiable footing remains. Owing to the general flimsiness of architectural structures in the Pacific, little archaeological work has proceeded along these lines. However, it is felt that the lack of success on the part of the author can be mainly attributed to his lack of the necessary expertise, equipment, and time. There are, in all likelihood, many sites such as the Onotoan one to be found throughout the Gilberts. The work of trained archaeological researchers, even the uncovering of footing remains, would be invaluable evidence to aid in the reconstruction of the actualities of traditional settlement pattern.

6.4.2 Site Layout

The sites which mwenga occupied were defined by a low coral rock border enclosing a 5cm deep layer of atama (coral gravel). They were roughly square in shape on a side of 16 to 20 metres. Size was unimportant and was dependent only upon the extent to which an individual mwenga

desired to extend the working surface beyond the perimeters of the household structures. As the coral gravel had to be laboriously collected in small baskets from the distant ocean beach, the gravelled area was kept to a minimum.

The predominant structure on all mwenga was the residential bata. Adjacent to the bata, on one or both longitudinal sides, was an open area used for outdoor activities. Some mwenga also possessed an additional structure, somewhat smaller than the bata, and used as a storehouse. Mwenga with larger populations often possessed two bata, the second being for a man's additional wives and/or elder children and relatives.

The layout of the three principal spatial units, the bata, open area, and the storehouse, could vary within the mwenga site, but only according to certain rules.

Rule 1: All structures were rectangular. Specifications for their proportions are outlined in the discussion of the particular building types which follows.

Rule 2: All structures erected on mwenga sites lay with their longitudinal axis north-south. The Gilbertese operated on four orientation points based on the path of the sun, which were closely equivalent to cardinal compass points. See table below.

North	Meang	Up the island
South	Maiaki	Down the island
East	Mainiku	Towards the ocean
West	Maeao	Towards the lagoon

Apparently, because of the generally north-south orientation of the Gilbertese atolls, the four points developed a broader meaning based on the geography of the islands. Because of the curvi-

linear form of most atolls, these orientations could vary quite considerably at different points along a stretch of atoll. The orientation of bata and other structures was thus eventually related to the orientation of the atoll, the operative rule being that the longitudinal axis of the structure should be parallel to the longitudinal axis of the atoll at that point.

This would apparently be of little consequence until it is realised that the ocean side of a bata and of the atoll itself were ritually important as being synonymous with the direction of the rising sun. In the majority of cases, this was approximately so. Where there was a significant deviation, bata were still built parallel to the atoll, conforming to the operative rule. Nevertheless, the ocean side of such bata was still regarded conceptually as being the side of the rising sun.

The apparent ease with which the Gilbertese accepted this paradox can be explained when it is realised that the important oppositions were between mainiku and maiaki. The orientation of the atolls was such that should one divide the perimeter of a bata into only two orientations, the rising sun, relative to X (See figure 1), could rarely if ever appear from a point in the semi-circle orientated to the lagoon. Side ab could thus be legitimately regarded as the eastern side.

Rule 3: All structures stood independently. For rectangular structures on parallel axes, it can be seen that three possible forms of growth exist. See figure 1. Rule 3 permitted only the arrangement depicted in (i).

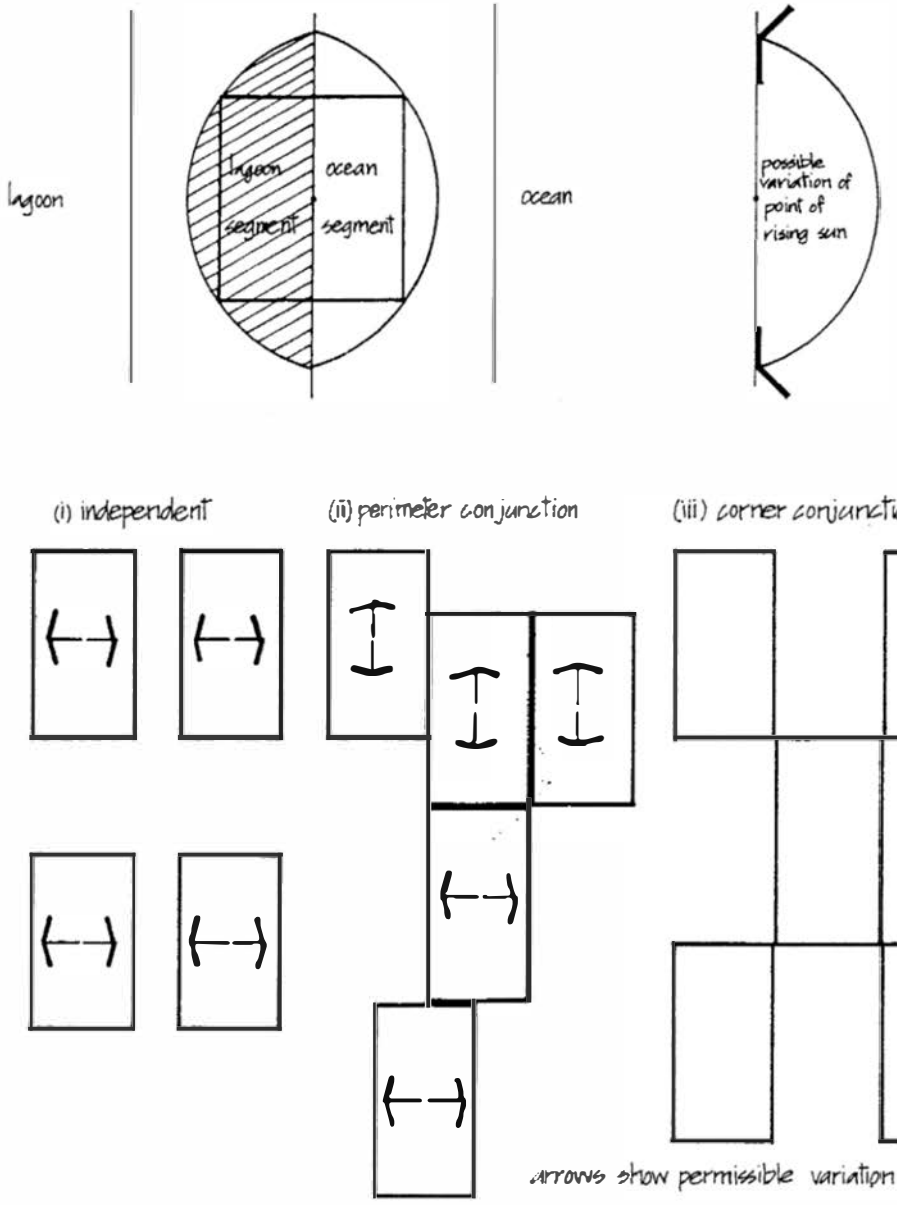

lagoon
lagoon segment
ocean segment
ocean
possible variation of point of rising sun
(i) independent
(ii) perimeter conjunction
(iii) corner conjunction
arrows show permissible variation

FIGURE 1

The rules 1, 2, and 3 can be regarded as formal, in that tradition specified them as the way to arrange structures on any mwenga site. In addition to the three formal rules, there apparently existed one further informal rule which governed site layout.

When asked if storehouses and additional bata, if any, should lie in any special orientation with respect to the principal bata, those informants who were considered qualified to speak on these matters all stated that any orientation was permissible and that it was up to the individual builder to decide. However, each informant also stated that he personally would place subsidiary structures generally to the east of the principal bata. The reason advanced for this arrangement was that the lagoon, the canoe sheds, the maneaba, and the uma-ni-mane all lay to the west of the mwenga and that it was therefore sensible that all arrivals and departures should occur at a principal bata situated on the western side of the mwenga site. Two informants carefully stated that this was only their personal opinion and that tradition did not concern itself with this matter. In addition, it might well have been that these informants were basing their opinions on the contemporary practice of placing the principal bata adjacent to the road which runs the length of the western side of the island. Nevertheless, on the basis of their opinion it is tentatively stated that there existed a fourth rule, or an habitual practice, whereby mwenga were orientated toward the west with the principal bata positioned on this side.

In addition to the principal structures, each mwenga site customarily contained:

(a) one or more cooking hearths and ovens
(b) semi-permanent drying racks for sea-food
(c) an open fire-place.

The overall layout of structures and ancillary spaces in a typical traditional mwenga is given in figure 2 .

6.4.3 Constructional Practice on Traditional Mwenga Sites

(a) Introduction

In addition to considerations of climate and resources, traditional constructional practice was related to many facets of Gilbertese culture and society. To maintain continuity, the rationale of this section is to discuss constructional practice under conventional architectural headings and to expose where applicable those relationships which existed with other aspects of Gilbertese culture.

(b) Bata

Plan Form

Though the proportions of the rectangular bata were fixed by rule, its floor area was not. The area varied according to the size of the family to be accommodated, but was expressed in terms of length of the longitudinal side rather than the area itself. Thus a house described as a four nga bata was approximately four nga long.[4]

Bata ranged in size from two and a half to four nga in half-unit increments. In reality, the range of sizes was infinite between these limits, for with a dimensional system based on human physiology there were naturally as many nga lengths as there were bata builders.

Bata proportions were sub-divided into three major categories, Tokaboua, Tokabeti, and Tokamamao. Each specified a corresponding range of breadth for any given length of bata:

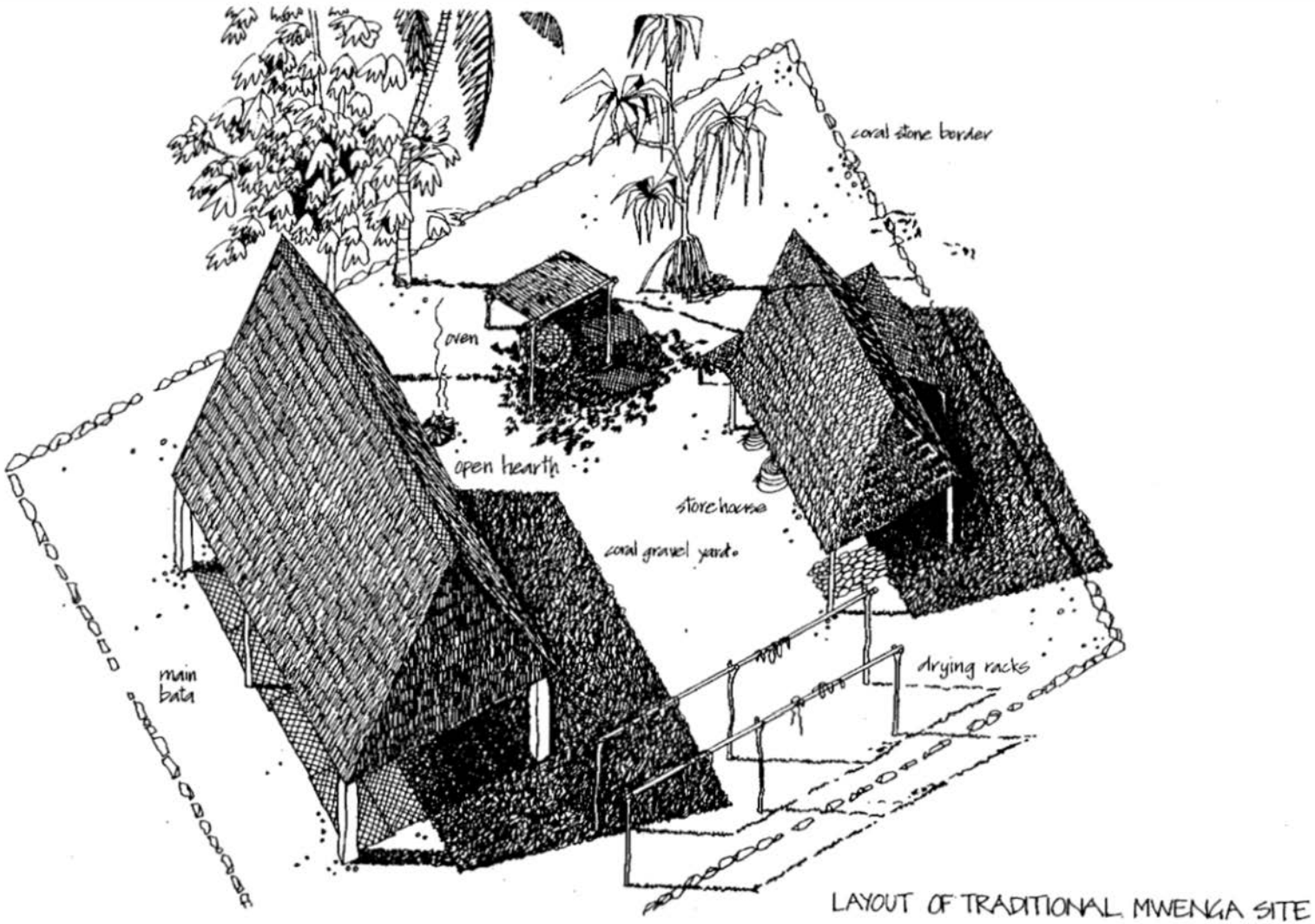

coral stone border
oven
open hearth
storehouse
coral gravel yard
drying racks
main bata
LAYOUT OF TRADITIONAL MWENGA SITE

FIGURE 2

Category	Breadth
Tokaboua	1/2 - 2/3 L
Tokabeti	2/3 - 5/6 L
Tokamamao	5/6 - 1 L

Each category contained three further sub-divisions which gave a specific breadth for any given length of bata:

Category	Sub-division	Breadth
Tokaboua	Tentaua	5/9 L
	Tauauta	11/18 L
	Tengaonio	2/3 L
Tokabeti	?[5]	13/18 L
	?	7/9 L
	?	5/6 L
Tokamamao	Taberantekai	8/9 L
	Tewenako	17/18 L
	Kareamata	1 L

Choice of Appropriate Proportion

Each category carried with it important social implications for the inhabitants of bata built with those proportions.

Bata in the Tokaboua category determined that the primary concern of their inhabitants would be their material possessions:

(i) Tentaua (lit. selfishness)

> "The inhabitants of this type of bata tend to develop extreme attitudes of selfishness and possessiveness."[6]

Though thrift was encouraged in Gilbertese society, selfishness, particularly toward utu and mwenga residents, was socially unacceptable. However, it was also stated that

should an individual not build in this style he was liable to find himself continually giving away food and other possessions. As a way out of this dilemma, it was possible to construct a storehouse in these dimensions, thereby guaranteeing its bountifulness and security without affecting the individual mental attitudes of the bata residents themselves towards possessions.

(ii) Tauauta

This was a more acceptable bata proportion.

> "The inhabitants of this type of bata, whilst wanting to give away a small percentage of their possessions, nevertheless keep the greater percentage for themselves."

(iii) Tengaonio

> "Whilst inhabitants of this style of bata frequently receive material gifts, they have no concern for thrift and continually give away food and other possessions."

Inhabitants of a Tokabeti bata developed, as their primary concern, the maintenance and appearance of their mwenga. Ignoring hard work and the collection of food, they would:

> "Pass the day tidying and cleaning the mwenga, and even plant decorative gardens around it."

Though further details could not be elicited, the point being made was that, though by no means idle, the inhabitants were over-zealous in their concern for the mwenga to the detriment of other tasks essential to the welfare of the mwenga occupants.

Inhabitants of a Tokamamao bata would never remain there for long. Visitors, upon entering, would immediately feel uncomfortable and wish to leave.

(i) Taberantekai

> "The occupants of a Taberantekai bata gradually lost all concern for the future. They engaged in activities at will without concern for the specific needs of the mwenga. They developed a philosophy of living for the moment."

(ii) Tewenako

> In this case, an extension of the above, the occupants became totally idle.

(iii) Kareamata

> "Having completed the bata, its occupants would simply wander off into the bush until they died of starvation."

Two important points emerge from a consideration of this custom whereby the determination of aspects of an individual's lifestyle was attributed directly to the physical form of the dwelling which he occupied.

Firstly, it is to be noted that those aspects of lifestyle which were supposedly affected were of an economic nature. More precisely, they were the two principal components of any economic system - the means of acquiring wealth (in this case labour), and the management of wealth (property).

The mwenga, as a group of individuals, was the primary economic group within Gilbertese society. Each mwenga was self-sufficient in terms of those resources necessary for daily existence, and between them the members of a mwenga gathered the full range of their food requirements, fuel, and water supply. All their tools, household equipment, weapons, and clothes were manufactured at home. The maintenance of the mwenga, and, in most cases, the maintenance of the health and security of mwenga residents were carried out by those residents themselves.

Only for major tasks such as the construction of houses and canoes or where sickness or death resulted in labour shortage did the mwenga find it necessary, on occasion, to enlist outside help. Even then it was only close utu whose aid would be sought.

It was appropriate therefore that it was the mwenga buildings themselves in which the broad principles of economic management were symbolically encoded.

The three sub-divisions of the Tokamamao type bata all possessed as their theme the necessity for consistent and conscientious labour for the maintenance of the prosperity and well-being of mwenga residents. The Tokabeti bata, whose sub-divisions could not be ascertained, stressed the necessity for maintaining a balance between labour aimed at providing those resources consumed by mwenga residents and that directed at the care and upkeep of the mwenga establishment itself. Finally, the Tokaboua bata in its three sub-divisions indicated the various consequences of differing attitudes toward property ranging from extreme possessiveness to unnecessary generosity.

What therefore was the purpose of ascribing these various economic themes to particular bata proportions? In the first case, there were no major advantages, in terms of either layout or structure, to be offered by any one of the nine possible plan arrangements. Even should one have stood out above the others, a more direct way of specifying this would have been to nominate a single fixed rule which gave the desirable length to breadth ratio. Similarly, if the desire was the promotion of uniformity in bata proportions, whatever the proportion might have been, that end could have been more simply achieved by a fixed rule. The point was not therefore the promotion of a functionally advantageous proportion for the bata.

Alternatively, the purpose of the practice could have been as it was literally stated: a means of ensuring the prevalance of a particular economic attitude amongst mwenga members. In this sense, it would have been a type of magic, a belief in a mysterious deterministic link between household form and economic attitude.

In a society where nearly every thought and action was believed to be linked to spiritual forces guided by ritual practice, this hypothesis appears reasonable if teleological. However, should this have been so, only those proportions which determined desirable economic attitudes would need to have been specified. Both the Tokabeti and Tokamamao bata produced obviously undesirable economic attitudes. What then was the point in specifying those proportions by which such attitudes could be achieved when obviously they would never have been deliberately chosen. As in fact they were not.

It is argued therefore that the collection of specified relationships between bata proportion and economic attitude was primarily a means of symbolically outlining the major principles of Gilbertese economic thought within a fixed reference frame. The specific relationship between a single economic attitude and its corresponding bata length/breadth ratio was unimportant compared with the position of that relationship within the larger system. The three major divisions and nine sub-divisions of length/breadth ratio represented a fixed logical set of alternatives. The principles of economic thought, on the other hand, existing only in the human mind were a more difficult set of concepts to grasp, particularly in a culture without a written language.

Moreover, in the harsh conditions of the Gilbertese environment, it was undesirable that the principles of resource management be open to full-scale experimentation - mistakes

in this area could easily be fatal. However, coupled symbolically with the logical set of length/breadth ratios, the major principles and alternatives of economic thought and action became themselves easily grasped, taught, and remembered, logical and complete. What was achieved was the tying of a set of abstract concepts to a real-world base from which they could be readily understood and acted upon by the society as a whole.

The second important point to emerge from a consideration of this custom was that, though the names of the nine bata styles and their corresponding economic manifestations were available and generally known to at least the adult males[7] of Gilbertese society, the specific length/breadth ratios corresponding to these styles were not in the same category of 'general' knowledge. These details, along with most of the other lore associated with bata building practice, were known only to the specialist builders.

Each utu group within the kainga possessed at least one specialist builder whose services would always be sought when a new bata was to be constructed, or where major repairs were required to an existing structure. Their services were not given freely and each builder was provided with food and other attention essential to his welfare throughout the duration of his work.

The reasons why this class of specialist originally came into being can only be speculated upon. Unlike canoe building, house building was not an overly complicated business. Any layman with a careful eye would have been capable of producing a physical replica of the other bata which existed around him.

It is evident therefore that the specialist builder relied upon the existence of a bulk of esoteric knowledge and ritual practice for the justification of his vocation. Further-

more, by withholding this knowledge from the general public whilst at the same time emphasising the great control over both evil and benign forces which this knowledge gave, the specialist builder ensured a continuing need for his services. The specific details of the length/breadth ratios which correspond to the nine bata sub-types were evidently a part of this esoteric knowledge.

Structure

The basic structure configuration of the bata is given in figure 3.

Roof

The roof form of the Gilbertese bata was invariably pitched with near-vertical gable ends. The roof was composed of a number of structural members, a list and details of which are given below.

(a) Tatanga (roof plate)

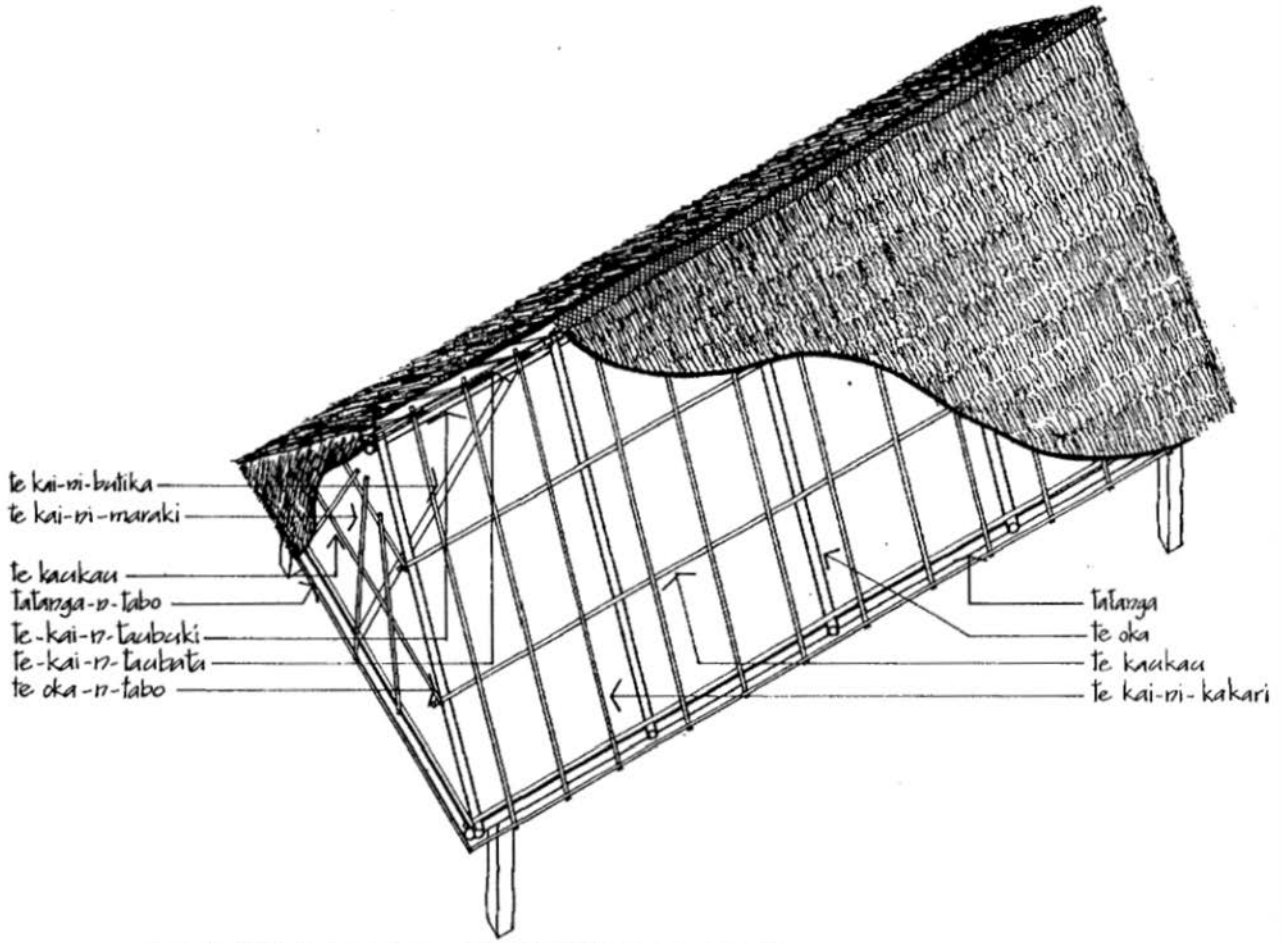
The roof was supported on four horizontal plates of 100 - 150mm round section. The two parallel longitudinal plates were known as tatanga. The two end plates which rested on the tatanga were known as tatanga-n-tabo.

(b) Te Kai-n-Taubuki (ridge plate)

This was a longitudinal ridge plate of the same sectional area and length as the tatanga.

(c) Te Kai-n-Taubatu (secondary ridge plate)

This member, approximately 50 x 50mm, lay above and parallel with the kai-n-taubuki and was used to fix the ridge capping and battens.



CUT-AWAY ISOMETRIC OF TRADITIONAL BATA

FIGURE 3

(d) Te Oka (rafters)

Te Oka spanned between the kai-n-taubuki and the tatanga, arranged in pairs. They overlapped above the kai-n-taubuki, with the eastern oka lying to the north of the western oka. The number of rafters to one side of the roof was always an odd number, usually three for a small bata and five or seven for the larger bata. The length of the oka was a function of the vertical height of the kai-n-taubuki above the tatanga. This height (h) varied according to the style of bata being constructed, but in accordance with the following rule:

$$\frac{h}{b} = \frac{b}{1}$$

Oka were normally 100mm round section. The first and last sets of oka on each side were called Oka-n-Tabo.

(e) Te Kaukau (purlins)

Attached to the oka were a series of purlins known as kaukau. Of approximately 50 x 50mm cross-section, they served both to brace the oka and as a support for the battens. The number of kaukau was invariably three to each side.

(f) Kai-ni-Kakari (battens)

The kai-ni-kakari, used for attaching the thatch, spanned from the kai-n-taubatu to the lowest kaukau. Of approximately 25 x 25mm cross-section, they projected some 300mm past the end of the oka to form a shallow eave. The spacing of the kai-ni-kakari was dependent upon the length of the sections of the thatch being used. Kai-ni-kakari were spaced so that three kai-ni-kakari occurred over a length (inaki) of thatch, one at each end and one at the centre. Inaki were usually about 1700mm long, giving a kai-ni-kakari spacing of 850mm.

(g) Kai-ni-Maraki (end battens)

Similar to the kai-ni-kakari, these members were attached to the end purlins as a support for the thatch which formed the gable ends. These members stopped short of the end rafters and ridge plate, leaving a 300mm gap all round.

(h) Kai-ni-Butika (braces)

Sprung from the centre of the tatanga-n~tabo, these braces of approximately 100mm round section rose at 45 - 60 degrees meeting the under-section of the kai-n-taubuki. They acted as a longitudinal brace to the whole roof structure.

(i) Te Rau (thatch)

The roof structure including the gable ends was sheathed in thatch which was pre-fabricated in sections known as inaki. These sections were approximately 1700mm long with a strand length of 375mm. Inaki of thatch were laid at one-hand-length centres up the kai-ni-kakari. One hand length was a measurement known as te raurau-ni-bai.

(j) Kabaraki (ridge capping)

Kai-ni-Rika (ridge pin)

Woven coconut matting known as kabaraki was laid along the entire length of the ridge and positioned by short timber pins fastened under the kai-n-taubatu.

(k) Additional timbers and variations

Te Kai-n-Kauntaeka (lit. the stick-of-argument). This was a synonym for the kai-ni-butika.

Kai-ni-Mauri (lit. the stick-of-health). A non-structural member lashed between the oka-n-tabo and the adjacent oka.

Its purpose is discussed in the following section.

Te Kai-ni-Markai-n'Atu (lit. the stick-of-the-aching-head). Synonym of the kai-n-maraki.

Te Kai-n-Ta. Synonym for kaukau.

Te Kai-ni-Buki-n'Atu (lit. the stick-for-the-head). This was the lowest of the purlins which was at such a height that the head could supposedly be rested against it.

Eaves Detail

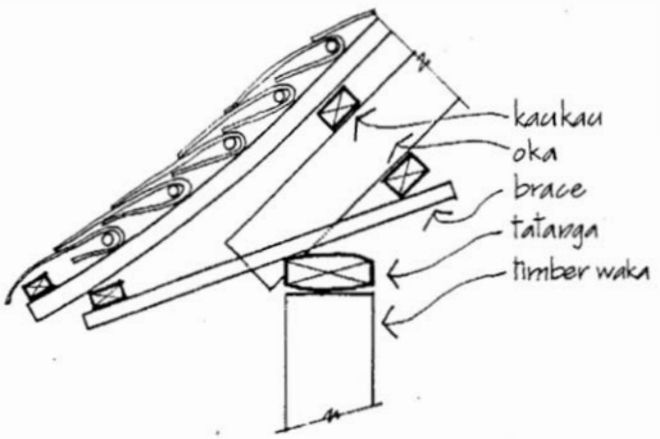
The roof form which has been described, though reportedly typical of all Gilbert Islands, is based on information collected exclusively from Onotoa. Minor variations no doubt existed on most islands, and an example of such a variation, from the island of Nonouti, is illustrated below. See figure 4.

The main purlins were curved up slightly at their lower extremities by the inclusion of a small brace resting across the tatanga as shown. Normally the oka could not be extended very far past the tatanga without becoming an obstruction to the easy passage into and out of the bata. This variation was apparently used to provide wider and stronger eaves than was possible using standard construction whilst at the same time, by the upward lift produced in the purlins, preserving a reasonable ground-to-eaves height.

Bao-ni-Moto (attic)

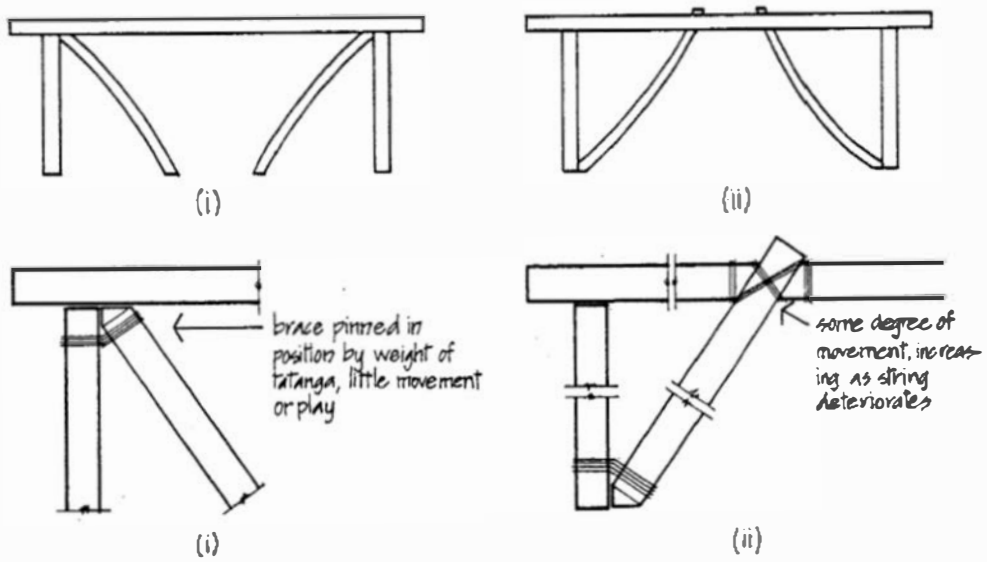
Most traditional bata possessed an upper story or attic used for a variety of purposes ranging from storehouse to nuptial chamber. The attic was supported on a series of beams known as Kai-ni-Babao resting on, and of similar cross-sectional area to, the tatanga. The attic could extend

anything from one quarter to the full length of the roof, the kai-ni-babao occurring at the same centres as the oka above.



ALTERNATIVE EAVES DETAIL

FIGURE 4



BUTTRESS VARIATIONS AND DETAILS

FIGURE 5

Walls

(a) Boua or Waka (posts)

The roof was supported on free-standing columns, one at each corner, and, for the larger bata, a central column along each longitudinal side. The columns were constructed either from timber (waka) or from slabs of coral stone (boua). The height of the boua was that which would place the tatanga at such a position that a squatting man with arms fully out-stretched above his head could just touch the underside of the tatanga with his fingertips.

(b) Kai-ni-Bakatoka or Kai-ni-Kamatoa (brace)

Occasionally, particularly where timber waka rather than stone boua were used, the columns were braced by one or two buttresses as shown. See figure 5. The stone boua had a wide base, especially in the lateral direction, and were sufficiently stable to withstand the wind forces which were exerted on the roof. Timber waka on the other hand, never larger than 250mm in diameter, were much less stable. In addition, the below-ground sections of timber waka were subject to decay, considerably reducing their initial stability. Though not as efficient in structural terms because of difficulties in fixing, braces of type (ii) were preferred as they did not obstruct the open sides of the bata to the same extent as did type (i). See figure 5.

(c) Bakatarawa (blinds)

The walls of bata were not solid but were composed of woven coconut blinds which could be raised or lowered at will. Generally kept in the raised position, they were lowered to give protection from rain or wind, and at night for security and privacy.

Floor

The floor of the traditional bata consisted of a few centimetres of coral gravel called atama laid over the bare earth. Above this was spread one or more layers of woven coconut leaf mat called inai. Where possible these mats were overlaid with finer mats woven from pandanus leaf and known as ropa.

Footings

Stone boua rested on a large flat coral stone footing or on a number of smaller stones packed closely together. These footings occurred at a depth of some 300 to 500mm below ground level.

Timber waka were supported on a giant clam shell known as Te Aona-ni-Were, placed at a similar depth to the stone footing described above.

The stone boua was generally regarded as the preferable type of post owing to its stability and longer life. However, stone boua were rare in domestic construction in pre-contact days before the advent of metal tools because of the excessive labour required to hew them from the beach rock.

Combining the stability of the stone boua with the ease of fabrication of the timber waka was an alternative post style known as Te Kimangai. This post was cut from the trunk of a tree but included a substantial base formed by the roots of the tree itself. The roots, cut off level, then rested on a flat bed of coral stones.

Overall Structure

Detailed structural drawings of a complete traditional bata are given below. See figures 6 and 7.

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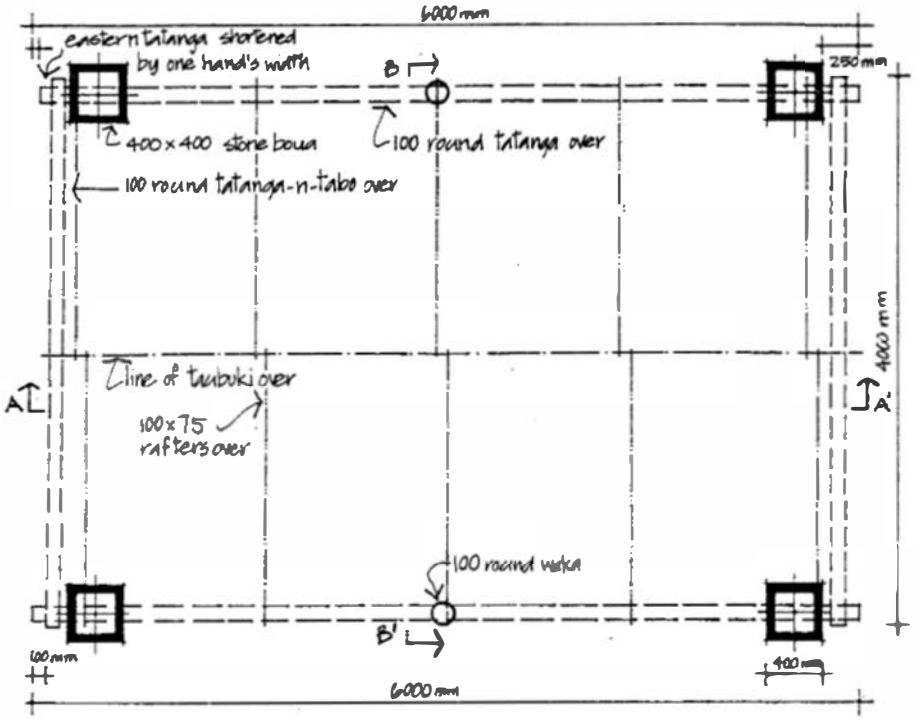
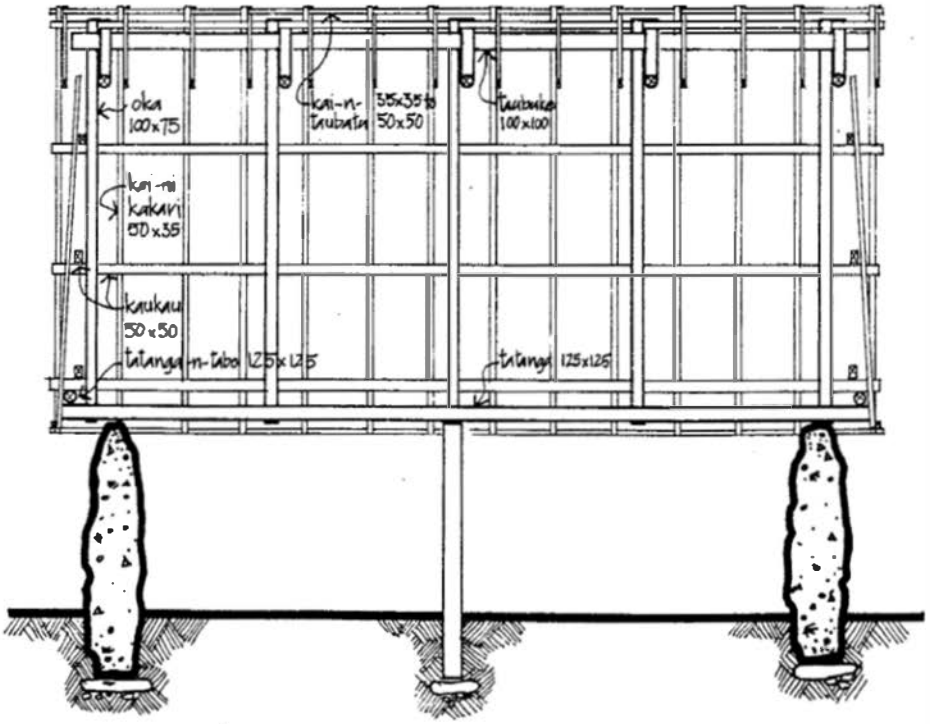
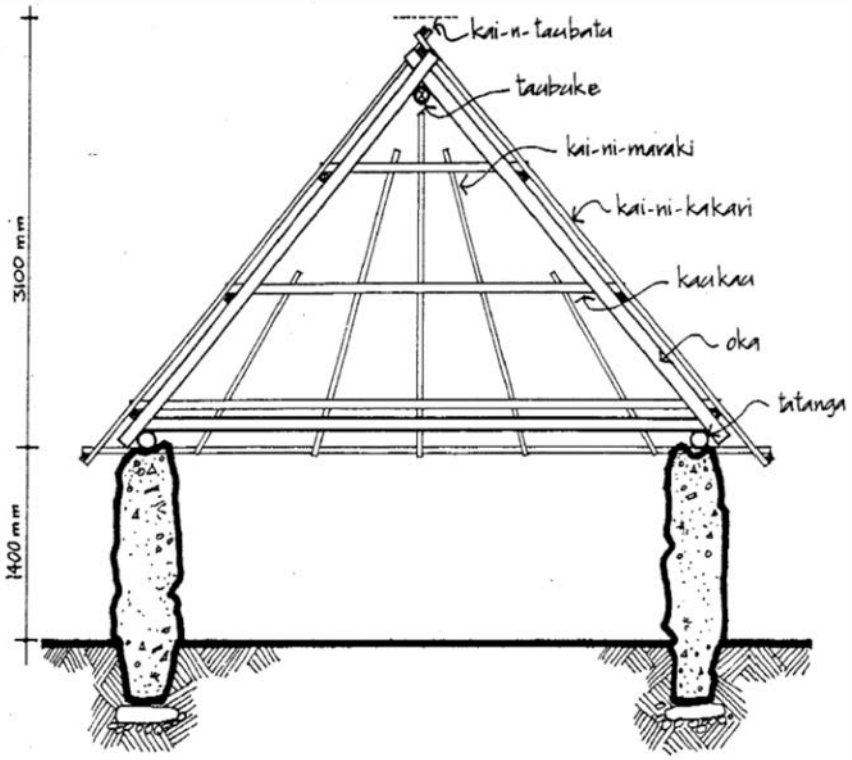


PLAN, 3FATHOM TRADITIONAL BATA
SCALE 1:50



SECTION A A'
SCALE 1:50

FIGURE 6



SECTION BB'
SCALE 1:50

PERSPECTIVE

FIGURE 7

6.5 SIGNIFICANCE OF THE BATA AS A STRUCTURAL FORM

6.5.1 Environmental Significance

The efficacy of the bata-style structure as an environmental shelter is quite evident and similar structures occurred throughout Oceania. See figure 8 .

FIGURE 8

Over the centuries the peoples of Oceania no doubt evolved this basic configuration as a response to both their requirements of environmental shelter, and the resources and methods for exploiting those resources which lay at their disposal. The large number of migratory voyages and the similarity of climatic and environmental conditions encountered throughout the region explain its widespread occurrence. In brief, the advantages which the structure offered were as follows:

Roof: A steep pitch which gave fast rainwater run-off. This was necessary to ensure that the thatch was waterproof and to prevent its premature decay through rotting.

The use of thatching material of high insulative capacity and low thermal capacity which gave maximum heat protection to the interior of the structure.

High-level ventilation at the gable ends which prevented any build-up of warm air within the steep-pitched ceiling cavity.

Walls: Maximum all-round openings permitted total though-ventilation for breezes from all directions.

Woven blinds gave protection from driving rain or high velocity winds without totally restricting light or ventilation.

Though not the concern of the thesis, the influence of climatic factors has been briefly dealt with because of its obvious importance in shaping the structural form of the traditional Gilbertese bata. In this respect, the primary function of the bata was undoubtedly the provision of shelter. The relationship between the structural form of the bata and climatic factors was a relationship almost completely independent of cultural considerations. There nevertheless remained a number of areas where the structural form of the bata was of cultural significance.

6.5.2 Mythological Significance

As with the maneaba, which was in many ways the model from which the bata structure was derived, a number of the structural members which made up the bata bore reference to the mythological race ancestors of the Gilbertese.

There was apparently no single reason why this practice was followed. In some cases, it merely helped keep the names of some of the most important mythological characters alive in the minds of Gilbertese by ascribing their names

to parts of the bata. In other instances, the nature of the relationship which existed between mythological characters was symbolically expressed through the physical relationship of the structural members which formed the bata. In yet other instances, the practice served as a means of explaining and ensuring the continuing use of particular methods of bata construction.

This latter point needs some further explanation. A frequently occurring theme in the cultural significance of the bata structure, whether that significance was mythological, magical, or religious, was the control of evil or harmful forces. These forces may be usefully categorised into two different types. The first was ever present and existed independently of the bata structure. It was believed that such a force could be controlled and its harmful effects avoided by measures incorporated in the bata structure. The second type of evil force was only brought into play by particular arrangements of the bata structure itself.

The measures taken to avoid the first type of force were typically ritualistic in their nature. That is, rather than being taken as a kind of primitive science where such measures were thought to be instrumentally effective, their most important function was their expressive capacity. Primarily, the measures emphasised publicly and ceremonially the fact that evil forces existed and should be controlled. Secondly, they offered a solution as to how to go about controlling them. The Gilbertese would not, however, attempt an empirical test of the effectiveness of these measures in the way that they would test their practical and technological techniques. As put by Beattie,

> "It is simply that there would be no point in doing so, for if and in so far as the central significance of the rite is expressive, it is thus far an end in itself." [8]

Forces of the second type required a different kind of explanation. What the Gilbertese said was that, unless a particular method of bata assembly was followed, evil forces would be brought into play. What they implied was that there was a correct and an incorrect way of assembling the bata structure. Forces of the first type were always in existence. In discovering a means of controlling these forces, the bata structure itself was occasionally used as an apt vehicle for the purpose. Forces of the second type, on the other hand, were only brought into play by the adoption of incorrect structural procedures. The temptation is therefore to postulate the existence of technologically functional reasons as to why certain structural procedures were regarded as 'correct'. If such explanations could be found, then the citing of the possibility of incurring the wrath of evil forces would appear to be a means of ensuring the adoption and continuing use of functionally advantageous constructional practices.

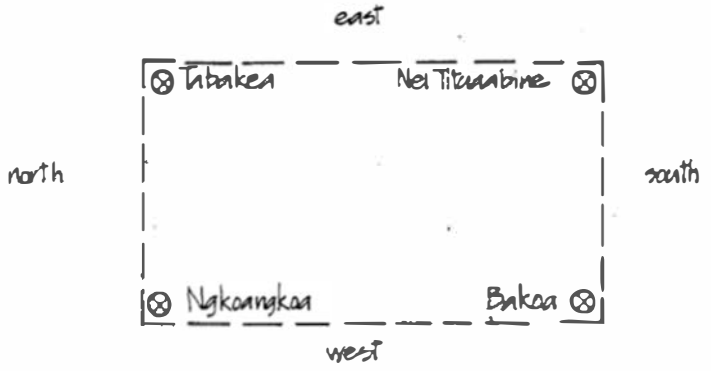
In the following discussion, where the significance of the structure involves the presence of forces of the second type, such functional explanations are sought.

Corner Posts

Each of the four corner boua which supported the bata roof represented a deity. Each deity was the same as that represented by the corresponding boua in the maneaba of the district to which the bata belonged. See figure 9.

Tabakea and Te Bakoa

The importance of the land/sea opposition in Gilbertese thought has already been briefly discussed.[9] This opposition, representing the triumph of land over sea and of the land-based human civilization over the pre-human undersea kingdom, was mythologically expressed through the opposition of the two gods Tabakea (land) and Te Bakoa (sea).



CORNER DEITIES IN THE BATA

FIGURE 9

As the ocean proper lay to the east of the atolls, it would seem natural that the dividing line between land and sea would have been this eastern shoreline, with the ocean being regarded as lying to the east and the land to the west. To the Gilbertese, however, it was in fact on the western lagoon shore that the confrontation was regarded as taking place. Two possible reasons for this choice can be suggested. Firstly, most settlements stretched along the lagoon shoreline, and it was the maneaba and residential structures as much as the atoll itself which were representative of Tabakea's kingdom. In addition, it was the lagoon shore from which the Gilbertese ventured to sea and at which visitors arrived; the lagoon waters were where they fished and bathed. In short, it was the lagoon rather than the ocean which figured as the 'sea' in their everyday lives.

Secondly, and at a more obscure level, it was from the west that the inhabitants of the Gilberts first arrived; and the atoll on which they settled was the most easterly point of their travels. With the land on which they settled lying to the east, and the oceans which they had crossed lying to the west, it seems not unnatural that the lagoon shoreline should thus be regarded as the point of contact between the two.

Furthermore, there is a possible mythological parallel between (a) the creation of the land and (b) the migrations from the west. According to legend, the land and the peoples which inhabited it originally rose from the sea. Similarly, legendary history has it that the inhabitants of the Gilbert Islands originally came from the west. By overlaying the two, the 'sea' and the lands to the west become synonymous, whilst the 'land' and the east pair as an opposing couplet. It was because the 'sea' lay to the west and the 'land' to the east, therefore, that the boua of Te Bakoa and Tabakea lay correspondingly to the west and east of the bata structure, though the opposition was diagonal.

Ngkoangkoa

The god which this post represents was the first of the original beings which Nareau brought to life, his name meaning literally 'the-first-the-first'. Consequently, this is the first of the four boua to be placed in position and all subsequent construction must begin from this corner, proceeding in an anti-clockwise direction.

Nei Tituaabine

The title, Nei Tituaabine, given to the south-east corner boua was derived, as indeed were the names of the other three boua, from the names of corresponding boua in the Tabontebike-type maneaba on which the bata under discussion were modelled. However, the maneaba boua, Nei Tituaabine, was connected with the boti Keaki, which occupied the south-east corner of the Tabontebike maneaba and whose ancestral deity was Nei Tituaabine. The Nei Tituaabine boua therefore derives its name somewhat differently from the other three boua whose names originated independently of the boti occupying the inaki which contained them.

It seems somewhat odd that three boua should have been named

upon construction of the first maneaba and independently of boti divisions, and yet the fourth should be left unnamed until after the boti allocations were completed. Onotoans could proffer no explanation. It may however be possible that, as the Keaki clan were one of the original invaders from Samoa, the usage dates from that earlier period during which the prototype of the Gilbertese maneaba was in use on Samoa.

End Battens

The battens which supported the gable-end thatch were called Kai-ni-maraki or Kai-ni-maraki-n'atu, the former term no doubt being a shortening of the latter. Literally this word means 'the stick-of-the-aching-head'. The name comes from a legend concerning one of the original deities who came from Samoa, Ten Nakimoa or Sir Rat. He was reputed to have made his residence at the base of these battens:

> "After residing there for some period, he was overcome by a desire to urinate whereupon he travelled to the top of the central batten to enable him to relieve himself without soiling the floor of the bata. Such was his haste that on reaching the top of the batten he did not see the rafter above and bumped his head on it, which resulted in a severe headache. From that time on it was necessary to stop all battens at the gable ends some distance short of the rafters for Ten Nakimoa's convenience." [10]

A parallel proviso was that the thatch which was laid on the end battens was not to sit tight against the side thatch. See figure 7.

If this practice was not followed it was said that the inhabitants of the house would be subjected to continual headaches and general bad luck. One informant added further that

(a) should the kai-ni-maraki touch the rafters or the taubuki, then the inhabitants of that bata would become sick and die; and that

(b) should the space which was left by the short battens be covered by thatch, then the lands of the bata residents would become barren.

In either case, it is evident that the type of evil force being brought into play in this circumstance was one categorised above as of the second type.

The gap which this practice left in the gable ends performed the valuable function of ventilating the upper ceiling space, facilitating the dispersal of the warm air which would otherwise have collected there. It is suggested, therefore, that a major purpose of this mythological reference was in fact to draw attention to, and to ensure the continuing use of, this valuable environmental control device.

Magical Devices

A number of features incorporated in the structure of the bata were specifically designed to guard against the workings of evil spirits and presences. The effect of these evil forces was to bring ill-fortune, ill-health, or social disruption upon bata residents.

Adjustment to the Tatanga;

The two tatanga possessed the alternative names of Tabakea and Te Bakoa, the eastern of the two being Tabakea. In this respect they sat in opposition, as did the two boua of the same names which helped support them.

To avoid the evil forces of Bakoa and to ensure the supremacy of Tabakea over him, the eastern tatanga of Tabakea was shortened by one hand's-width (nimai-ni-bai) over its designed length.

Adjustment to the Taubuke

Not specifically connected with the god Tabakea, but again in order to ensure the good-fortune of the mwenga, the designed height of the taubuke above the tatanga-n-tabo was similarly shortened by nimai-ni-bai.

Effect of the Roof Brace

Mention has been made of the roof brace, known alternatively as kai-ni-butika or kain-kauntaeka. The latter term may be translated as 'the stick-to-make-argument'. Inclusion of these braces within the roof structure was believed to have the undesirable consequence of promoting argument amongst mwenga inhabitants. It was further explained that the truth of this assertion could readily be seen in the position which these two braces occupied - at opposite ends of the bata, angled towards each other in a posture of provocation.

Again this was an instance where harmful effects were actually brought about by an undesirable structural arrangement, and a functional reason why this should have been so can be sought. Such a justification is not however as accessible as it was with the kai-ni-maraki-n'atu, for the roof braces served the valuable function of reinforcing the roof structure against longitudinal collapse.

On the other hand, it must be remembered that the bata roof was very close to the ground and that, in such a structure, end braces would have been an awkward, impractical, and dangerous obstruction in an otherwise clear ceiling space. The only position in which the end brace could have been secured to the taubuki without interfering with the roof structure was to its underside. A secure lashing in this position could only have been achieved by housing the end brace into the underside of the taubuki. This practice,

if undertaken, would have severely weakened the tension face of the taubuki at that point, thus either inviting its collapse or necessitating a compensatory increase in its cross-section and thus its weight. The coconut fibre sennit which was used to lash all joints together was prone to rot. Every other structural member in the bata structure was secured at a number of lashing points so that, should one or even a number of lashings fail, the member would remain in position until the defective lashings were discovered and repaired. The end brace, on the other hand, could only be secured at either end and was in such a position that it would have undoubtedly been leant upon and otherwise used for purposes for which it was not designed. Under these conditions of stress, should even one lashing have failed, the end brace would have plummeted to the bata floor. A falling timber of this size could have caused serious injury to any adult, and quite easily killed a small child or baby.

Finally, the multiplicity of rafters, purlins, and battens (and even the thatch itself to a minor extent) acted to give a rigid roof structure, rendering the end brace almost redundant. It would appear therefore that the advantages offered by an end brace were so far outweighed by its disadvantages that its inclusion in the bata structure was actively discouraged by pointing to its potential to cause argument.

Inclusion of the Kai-ni-Mauri (lit., stick-of-good-health)

A timber offering no structural advantage could be included in the bata roof purely for the purpose of ensuring the good health and peaceful co-existence of bata residents and their visitors. This timber, of approximately 50 x 50mm cross-section, spanned between the oka-n-tabo of the south-east corner and the adjacent oka to the north, some 300mm above the tatanga and parallel to the ground. It

was positioned in the south-east corner so that it would lie above the boua of Nei Tituaabine, reputedly the goddess of love and peace.

Apart from the advantage which the kai-ni-mauri was believed to offer mwenga residents, it should also be realised that, because of its visibly prominent position within the bata, it served as a visual symbol to other members of the community of the type of values which the residents esteemed. On a broader scale, its very existence (paralleled by the customary form of greeting - Ko na mauri (lit. may-you-be-in-good-health) as a public declaration, in the absence of similar symbols denoting for example strength, power, or aggressiveness, may be seen as typifying a wider cultural value of camaraderie and mutual respect. This is not to say, of course, that aggression did not occur in social relations, but where magic or ritual was practised to imbue individuals or groups with this kind of attribute, such a practice was conducted in private. That is, co-operation and respect rather than aggression or antagonism were culturally sanctioned social modes of behaviour.

6.5.3 Social and Philosophical Significance

As previouisly discussed, the geographical environment in which the Gilbertese lived was seen by them as a basic opposition between land and sea. This binary phenomenon was represented in the gods Tabakea and Bakoa. In turn, their opposition was symbolically expressed in two corner boua bearing their names.

A similar social opposition was seen by the Gilbertese in the distinction male/female. The role of the two sexes and their position vis à vis one another were again symbolically expressed in the bata structure.

The structural members which represented each sex were

the oka (rafters). Those on one side of the taubuki represented one sex, and those on the opposite side, the other sex. The basic opposition of the oka expressed the equally basic difference between the two sexes. Though the two sexes belonged to the same fundamental category of aomata (homo sapiens) as the two sets of rafters belonged to the same fundamental category of oka, each sex was nonetheless as distinct from the other as was each set of opposing oka.

Allied with this distincion was a notion of eternal truth. As stated by one informant, "As there were rafters in the first house and there will be in the last house, so man and woman were and will forever remain opposites."

Having so outlined this basic recognition of difference between the two sexes, the importance of the need for their mutual co-operation was then symbolised. Just as neither set of oka alone, but only the combination of the two, was capable of supporting the roof structure of the bata and protecting the roof space below, so only through the combined efforts of man and woman could the mwenga survive and flourish.

The status difference between the two sexes (males were of higher status than women) was expressed by the position of the two sets of oka relative to one another. On Onotoa, where the Tabontebike-type maneaba predominated, the east and the north orientations were more important than the west and the south. The predominance of east over west in the land/sea opposition has already been noted, as has the importance of the east in its association with ritual. The predominance of north over south arose, in all likelihood, from the occupation of the north end of the maneaba by the ruling Karongoa clans.

Accordingly, the set of rafters representing the male was the eastern set, while the western set represented the

female. Additionally, at the point on the taubuki where two opposing rafters met, the eastern male oka was positioned to the north of the western female oka. See figure 6 .

This practice was followed invariably, with one notable exception. When an individual had many wives, a second bata was frequently required to accommodate them exclusively. Then customary practice was to completely reverse the oka positioning outlined above, expressing the fact that such a bata was a women's house where women predominated and status was reversed.

The symbolic expression of the male/female distinction contained in the oka arrangement, and the resolution of that distinction through the social relationships of role and status, together formed what could be termed a fixed symbol. By that is meant that the relationship between the sign (i.e., the oka arrangement) and the message which it conveyed was completely specified and culturally recognised.

In addition to this, however, the bata structure served as an open-ended sign from which a number of symbolic expressions could be extracted. The unimane, when speaking at public ceremonies, for instance on the occasion of a birth, wedding, or initiation, frequently practised a type of spontaneous poetry. Regarded as cryptic by the younger Gilbertese, the speech proceeded entirely by analogy. Details of bata structure and construction figured prominently in this type of speech, as did details of maneaba and canoe construction. In this respect the bata served as a loose or open-ended symbol manipulated by the orator as the speech proceeded. In a world where the bata, the maneaba, and the canoe existed as the only large-scale man-made marks on a predominantly natural environment, their use as symbolic vehicles was perhaps not extraordinary. Importantly, however, the heavy investment of symbolic

reference in the bata structure raised it from the level of an anonymous functional object, existing only for the provision of shelter, to that of an object of extensive cultural significance, a home and not a house. The very care in the selection of materials, in its workmanship, and it the maintenance which was bestowed upon the bata, compared with for instance the bush structures described earlier, is indicative of this.

6.6 BATA CONSTRUCTION

6.6.1 Schedule of Materials

Structural Member		Material		Equiv.for Bush Constr.	
Eng.	Gilb.	Eng.	Gilb.	Eng.	Gilb.
1. thatch	rau	pandanus leaf	ba ni kaina	coconut leaf	ban-ni
2. ridge pin	kai ni rika	Pemphis acidula	te ngea	same	same
3. ridge capping	kabaraki	coconut leaf	ba'n ni	same	same
4. end-brace	kai ni butika	Pandanus techorius	kaina	not used	
5. end battens	bai ni maraki	"	"	Guettarda speciosa, Morinda citrifolia, Scaevola	uri non mao
6. battens	kai ni kakari	"	"	"	"
7. purlins	kaukau, kainta	"	"	"	"
8. second-ary ridge plate	kai-n-taubatu	"	"	"	"
9. ridge plate	taubuki	"	"	Pandanus tectorius	kaina
10. rafters	oka	"	"	"	"
11. roof plate	tatanga-n-tabo	"	"	"	"
12. posts	boua, waka	limestone Pandanus tectorius	kaina	Pemphis acidula	tengea
13. blinds	baka-tarawa	coconut leaf	ba'n ni	same	same
14. floor gravel	te tano	coral gravel	atama	same	same
15. attic floor	?	coconut midribs	te ba	not used	
16. under-lay	te inai	coconut leaf	ba'n ni	same	same
17. floor matting	te roba	"	"	"	"
18. lashing	te kora	coconut	a'ni	"	"

6.6.2 Preparation of Materials and Components

Timber

The most common timber used in bata construction was that of the pandanus tree (te kaina).

Sabatier lists some 132 species of kaina as recognised by the Gilbertese.[11] This complete list includes the alternative names of single species which varied from island to island, and of single species at various stages of maturity.

The list can therefore be shortened considerably, and the Onotoan Gilbertese differentiated the kaina into five basic species:

1. Arantebwe
2. Arabakororo
3. Aramaru
4. Aratawatawa
5. Anabai

In selecting pandanus for constructional purposes, the Gilbertese isolated the following characteristics as being relevant:

1. Overall height of tree and straightness on trunk
2. Density of branches of trunk
3. Age
4. Length of foliage
5. Density of trunk
6. Fruit production capacity

Most pandanus trees grew to four to six metres in height, with odd species reaching 10 - 15 metres. Some had as few as two or three branches along their entire trunk.

The trees usually matured after 20 - 30 years by which time their timber became very strong. The centre of the pandanus trunk was a fibrous pith (te otona), which varied in diameter and density according to species.

Though all five species of kaina noted were generally suitable for bata construction, the arantebwe was the most satisfactory. When there were some fully mature arantebwe trees (whose fruit production had begun to decline) on an individual's land, they would be chosen in preference to the other four species. The arantebwe grew very tall and straight and usually had few branches. Its otona was very small in diameter and the timber consequently dense and strong throughout the whole cross-section of the trunk. The other species had larger otona which rotted away after about five years, considerably reducing the strength of the timber. An added advantage was that a pandanus trunk with a small otona, if split into a number of smaller timbers, gave a higher yield per tree than trunks with large otona where only the peripheral timber could be used.

For these reasons, the arantebwe was most suitable for the tatanga, the taubuki, and the oka. The other species were adequate for the smaller timbers which complete the roof structure.

For storehouses and bush structures, Geuttarda speciosa (te uri), Morinda citrifolia (te non), and Scaevola (te mao) could be used in place of pandanus. These species were all commonly occurring shrubs reaching five to six metres in height. Though good quality timbers, only short straight lengths of small cross-section could be milled from them. Their use was thus restricted to the smaller and unprestigious bush structures and storehouses. Large storehouses were usually built predominantly from pandanus, though the shrubs cited above could be used for battens and purlins to eliminate the labour involved in splitting

pandanus trunks to the small cross-sections required.

A very hard timber, Pemphis acidula (te ngea), was frequently used for the corner posts of storehouses and bush structures. Its curvilinear, multi-branched trunk rendered it unsuitable for bata construction. However, where appearance was not important, its capacity to resist insect attack and rotting made it particularly suitable as a support column for unprestigious construction.

Milling and Preparation of Timber

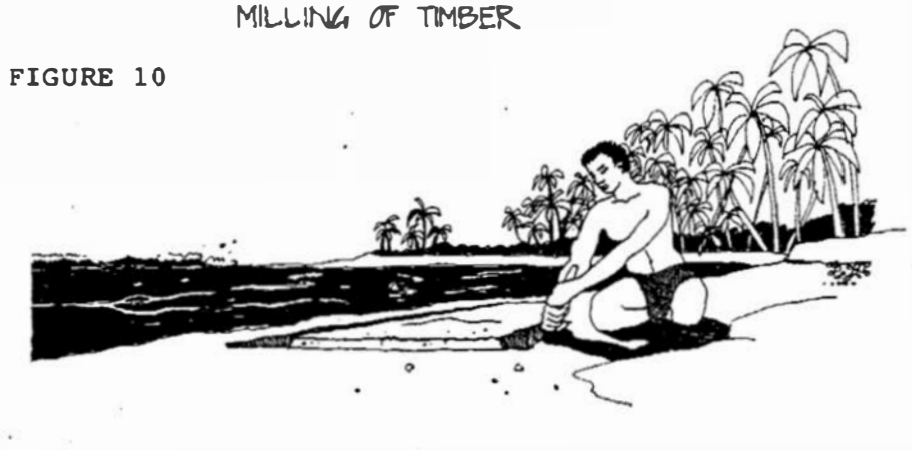
Pandanus

Once a suitable tree had been found, it was felled and the bark removed. The log was then taken to the building site to prevent theft. Were the log to be used for the tatanga, it was then cut to the required length and left to cure. For the oka and the taubuki, should a full round-section be oversized, two cuts diagonally opposite were made down the length of the log. The cutting tool used was an axe (te ai or te waitebu) made from the shell of the giant clam. Once these two incisions had been made, the axe was used as a wedge to split the log in half. See figure 10.

For the smaller timbers, the kaukau and the ba-ni-kakari for instance, the split logs were further reduced until the correct sizes were produced. The timbers were then ready for curing. Curing might consist solely of sun-drying, but the preferred method was to place the timbers in salt water. This gave far greater resistance to both insect attack and premature rotting. The period for which the timbers were left in the sea varied from two weeks to a month. They were then removed, allowed to dry, and cut to approximate size prior to fabrication.

MILLING OF TIMBER

FIGURE 10



STEP 1, EXTRACTION OF STONE BOUA

FIGURE 11

STEP 2, EXTRACTION OF STONE BOUA

FIGURE 12

It was normal practice to secure new timbers for the construction of new bata. For storehouses it was possible to re-use old timbers from previous structures which had decayed, provided the timbers were still of the required length after the rotted sections had been removed.

Other Timbers

As the bata was constructed almost entirely from pandanus, special care was taken in the milling, curing, and preparation of this timber. For other timbers which were to be used on lesser structures, little preparation was required. Normally, the removal of bark and two to four weeks' sun-drying was all that was carried out.

Stone Boua

The stone corner posts were cut from beachrock found on the eastern shoreline. This rock was formed by the lithification of beach debris in the intertidal zone.[12]

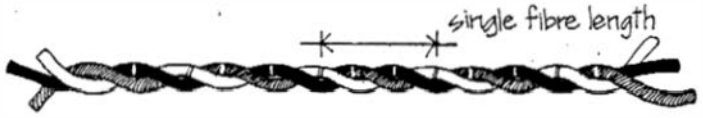
The stone slabs were first marked out and a 250mm-wide trench scraped out to a depth slightly greater than the required thickness of the boua. See figure 11.

From this trench, the underside of the boua was painstakingly scraped out until the slab could be prised from its base with timber crowbars. See figure 12. The scraping tools, like the axe, were fashioned from the shell of a giant clam. Though the beachrock was crumbly and hence relatively easy to work, each boua could take an individual from two to three weeks of continuous labour to extract. Nevertheless, the superior qualities of the stone boua over the timber waka made this arduous operation worth the effort.

Sennit

The entire bata structure was fastened with sennit (te kora). Even timber pins and dowels were not used. The sennit was made from the fibre which formed the coconut husk. The fibre was first pulled away from the hard outer shell and then softened by beating with a wooden mallet. It was then spun into short lengths of strand, the same length as the fibre itself, by rolling it on the thigh with the palm of the hand. These short, single strands were stored until a length of sennit was required. The sennit was formed by the same process as the single strands except that the joints were overlapped. See figure 13. Te kora was made in several grades according to the number of strands which were used in the final product.

It was extremely strong and even in exposed conditions lasted from three to five years. In protected areas its lifespan increased to five to seven years. The making of sennit was a woman's task and large quantities would be prepared in advance of bata construction. Sennit was measured in lengths of te nga. See Appendix 2.



3 STRAND SENNIT WEAVE

FIGURE 13

Thatch

Two types of thatch were made in the Gilbert Islands, one from coconut leaf and the other from pandanus leaf. These were called respectively te ato and te rau.

(i) Coconut Thatch

This was an inferior product used only for temporary protection or on bush structures and canoe sheds. Fresh coconut fronds were cut and then left to lie in the brackish ponds which were scattered along the interior of the atolls. This process served to preserve the thatch against insect attack and rot, the fronds being left in the ponds for approximately a week, by which time the leaves had turned a deep reddish-brown. The thatch was then woven while the fronds were still water-logged, the leaves in this condition being supple and easy to plait. Each thatch was approximately two metres long. The leaves on both sides of the midrib were plaited together on a single side of the rib to form a tightly packed water-proof sheath. See figure 14 .

The ends were tied as shown. To prevent the thatch from loosening, an inch of the central stem of every fourth leaf was broken, bent downwards, and pinned through the leaf which it overlapped. This was repeated every third row of plaiting.

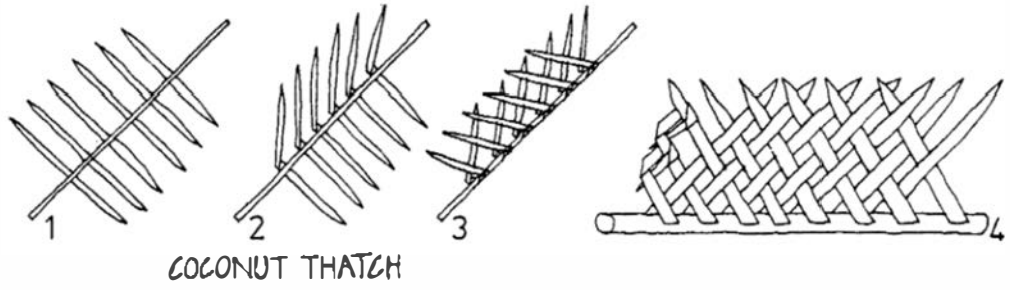


FIGURE 14

(ii) Pandanus thatch

This was superior to coconut thatch, giving better rainwater protection and having a higher resistance to decay. It

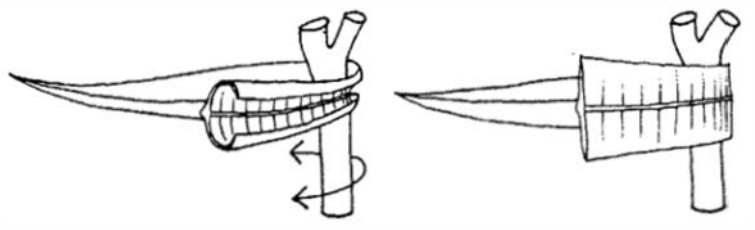
needed relpacement every five to seven years.

Collection of raw materials

Leaves for thatching needed to be some two metres long. All varieties of pandanus were thus suitable save Te Anabai which was distinguished by its very short leaves. Large numbers of dead leaves were collected in bundles of fifty and left to soak in fresh-water ponds for five to seven days. If leaves were not soaked they were difficult to work and decayed quickly. Salt-water soaking rendered the leaves pliable but did not act as a preservative. Only fresh-water soaking was satisfactory, producing a very soft pliable leaf with a high resistance to decay. After seven days the leaves were unbundled and laid out individually to dry in the sun for three to five days. They were then suitable for thatching but often were re-bundled and stored for any time up to three years before use.

Preparation of leaves

Even after soaking and drying the pandanus leaves retained the rolled-up shape into which they formed themselves after drying on the tree. It was therefore necessary to flatten the leaves into a shape suitable for thatching. A one-metre-long length of Geuttarda speciosa was driven firmly into the ground and the leaves flattened by pulling them around the stick with the back of the curved leaf against the timber. See figure 15.



PREPARATION OF PANDANUS LEAF

FIGURE 15

Thatching rod

The pandanus leaves were wrapped around a timber rod to form one section of thatch at a time. This timber was cut from the midrib of a coconut frond (te ba). The required length was one inaki (approximately two metres) plus two nimai-ni-bai (2 hand-widths).

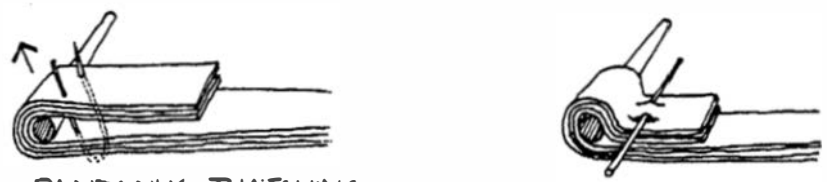
Attachment of leaves

The leaves were first attached at the broader end of the te ba stick. Beginning with a double layer of leaves, their broader ends were wrapped around the te ba forming an overlap of 25 cm. See figure 16.

PANDANUS THATCHING

FIGURE 16

The leaves were then pinned with a bone needle 10 cm in length. The needle was bent away allowing a thin skewer to be inserted to fasten the leaves permanently to the te ba. See figure 17. The skewer was obtained from the strong central stem of a single coconut leaf.



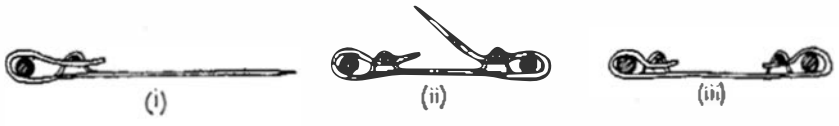
PANDANUS THATCHING cont.

FIGURE 17

After the first double layer of leaves had been so fixed, single leaves were attached by a similar process until the far end of the length of te ba had been reached. The section of thatch was completed by attaching a double layer of leaves identical with the first.

Preparation of lower thatch

Traditionally the bottom row of thatch which formed the eaves was different from that used on the rest of the roof. The bottom inaki component was first prepared as described above. The loose ends of the leaves were then folded back over a second te ba rib and fastened as in the top rib. The tips of the leaves were then trimmed back close to the skewer. This thatch was called te bai-ni-keketi. See figure 18.



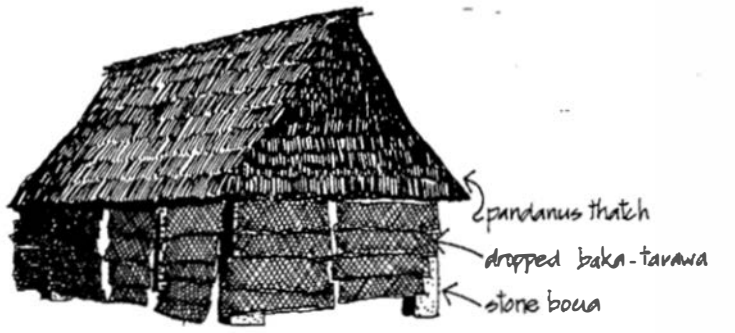
LOWER THATCH

FIGURE 18

The amount of thatch required for the bata was calculated and prepared prior to construction.

Blinds

The drop-blinds (baka-tarawa) were usually prepared during or after the construction of the bata. They were made in the same way as coconut thatch except that the loose ends were plaited to form a finished edge strip along three sides of the blind. See figure 19. Some blinds incorporated more elaborate patterns, but whether these were associated with particular social, kin, or spiritual groups could not be ascertained.



BATA WITH FULLY DROPPED BAKA-TARAWA

FIGURE 19

6.6.3 Bata Constructional Procedures

Organisation of labour

Though the bata was constructed to house a single residential unit, the mwenga, the resources of that unit alone were not sufficient to carry out construction and at the same time provide day-to-day living requirements.

Outside assistance was needed and it came from the kin group known as the utu. It has been mentioned that an individual could be another's utu either in the identity sense, the code sense, or a combination of both. Identity came through direct blood linkage while code was determined by the social relationship which existed between two or more individuals. In particular social situations, for instance, those people who stood in utu relationship to one another were required to act in certain formally prescribed ways. Should they fail to do so, they would no longer be regarded as utu in the code sense.

It is evident that the utu code of conduct was in many ways the most important aspect of the utu relationship,

for it was through the code of conduct that the utu concept gained a social reality. Utu identity determined those who were an individual's conceptual mother, father, brother, aunt, etc., but such concepts had little or no meaning until the type of behaviour which the individual should adopt with those persons was also specified. An important way in which conduct between utu members was specified was in relation to construction of the bata.

It has already been mentioned that bata construction was carried out under the supervision of a specialist builder. Each utu group living within a kainga or maneaba district normally contained at least one such builder, and his services would be sought whenever a bata was being built.

More generally, though, the entire proximal adult utu group in varying capacities was a potential labour source. According to utu code of conduct, aid, if sought, could not be withheld if normal relations were to be maintained. Though not formally specified, there was a pattern as to whose aid would be enlisted for particular tasks.

As a new bata was commonly constructed for use by a young man just married and establishing a mwenga, the primary potential labour force would be that man's brothers and/or adult male cousins and nephews. For the cutting and preparation of timbers, the specialist builder, the owner, and one of his relatives were sufficient. The builder would be responsible for the selection of timbers and for guidance in their milling and preparation.

While this work was progressing, the owner's relatives, normally his wife, mother, and/or adult female cousins and nieces were responsible for preparing the pandanus thatch and sennit.

This labour force would continue until the roof structure was ready to be raised onto its supporting posts. This task needed some five to ten adult males depending upon the size of the bata under construction, and this number usually represented the entire male component of the residential utu group. At one stage or other, therefore, the male owner's active utu (of both sexes) in residential proximity were likely to have to take part in the process of bata construction, thereby affirming their solidarity as a co-operating social group within the community.

Furthermore, it should be noted that the utu was the appropriate group within the community to perform this task. While it was the clan which concerned itself with the affairs of the kainga as a whole, it was the utu which was involved in the internal affairs (births, deaths, disputes, etc.) of the mwenga.

Process of Construction

(i) Site Selection

Should the new bata be constructed within the kainga or kawa of the owner's clan, a site was agreed upon between the head of the mwenga to which the owner belonged prior to his marriage (i.e., usually his father) and the actual owner of the kainga land tract, the atu-n-te kainga. Normally the site would be adjacent to the owner's previous mwenga, from which the affairs of the new mwenga could be supervised. On the rare occasion where the bata was to built on one of the buakonikai holdings of his utu, the choice of site did not of course concern the clan but lay entirely in the hands of the utu.

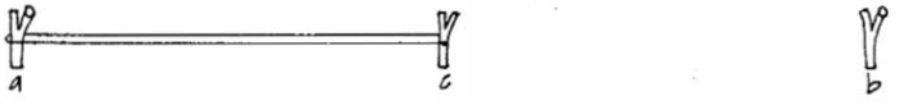
(ii) Construction of the Roof

The first element of the bata to be constructed was the roof. Once the builder had decided upon the style in which

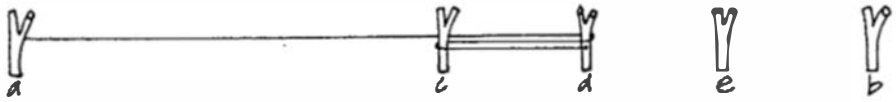
the bata was to be constructed, the timber for the western tatanga was laid on the ground adjacent to the bata site and cut to the required length, i.e., somewhere between 2½ and 4 fathoms.

The length of the tatanga-n-tabo was then calculated by the builder as follows. A stick was placed in the ground at either end of the tatanga and a length of te kora stretched between them. This gave the length ab:

By halving te kora, the point c was established and marked:



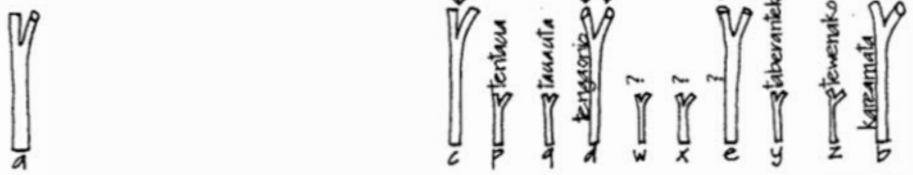
By dividing the length of te kora cb into thirds, the points d and e were marked:



These points represented the three major divisions of bata style:

Style	Range of tatanga-n-tabo
Tokaboua	ac - ad
Tokabeti	ad - ae
Tokamamao	ae - ab

The lengths cd, de, and eb were then further divided into thirds, and the points p, q, w, x, y, and z marked:



These points represented the nine subdivisions of the three major bata styles. According to the style in which the bata was to be built, the appropriate length of the tatanga-n-tabo was chosen and the timbers cut to this length. Finally, the eastern tatanga was cut to size, its length being equal to that of the western tatanga plus one hand's width.

The four roof plates were then laid in position, the tatanga-n-tabo on the upper face of the tatanga. Each plate overlapped the other by approximately one hand's width. See figure 20.

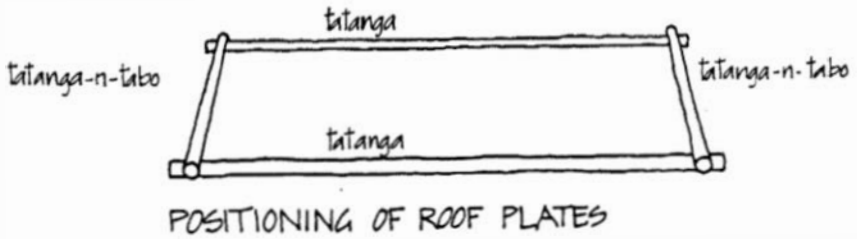


FIGURE 20

The plates were lashed together with a knot called the bukininai. This knot was named after the fish, the inai, whose scales bore a similar 'crossed' appearance. See figure 21.

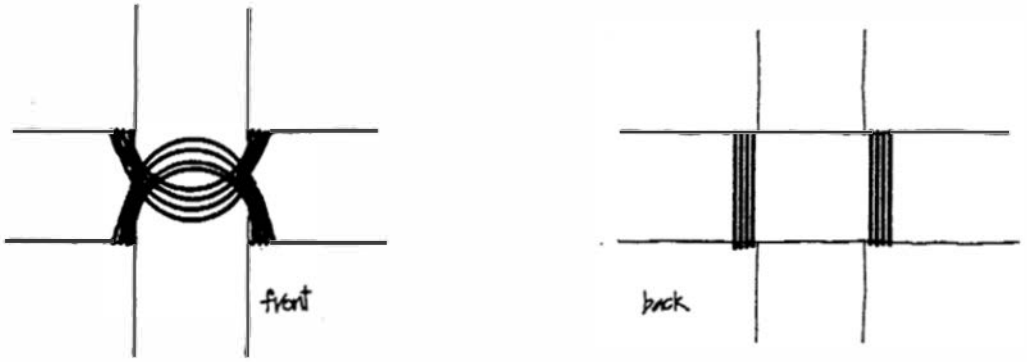


FIGURE 21

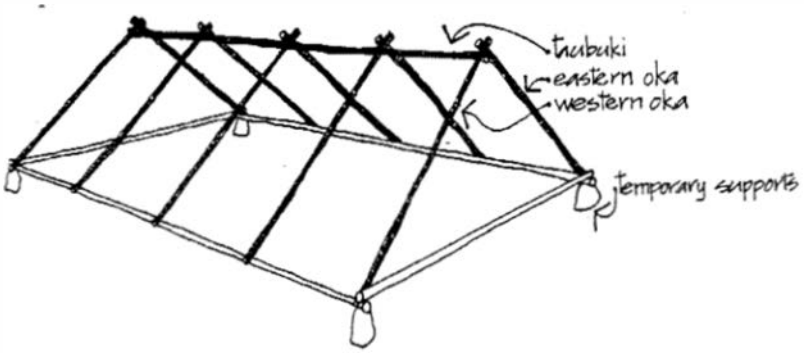
It should be noted that the proportions of the various bata styles, therefore, referred not to the plan form dimensions but to the dimensions of the roof plates. Furthermore, because the eastern tatanga was extended by one hand's width the plan form was not perfectly square but skew. The northern and southern sides were equal but the eastern side was longer than the western.

The next stage in the construction of the roof was the positioning of the oka and taubuki. The height of the taubuki above the tatanga-n-tabo was in the same proportion to the tatanga-n-tabo as was the tatanga-n-tabo to the western tatanga (i.e., the original calculated length of the tatanga). The distance was calculated by a similar process to that previously described. This height, when calculated, was shortened by one hand's width, giving the final precise height of the taubuki.

Before placing the first oka, the roof plate frame was raised some 30 cm above the ground and supported on stones

at the four corners. This enabled the oka, when in position, to project below the underside of the tatanga. The two oka-n-tabo at the northern end were then placed in position and adjusted so that the taubuki, which lay immediately below their apex, was at the correct height. This position was marked and the two oka secured - at their base to the tatanga and at their apex to the taubuki which was held horizontal by a pole at the southern end. The two southern oka-n-tabo were then lashed in position, and, by means of a te kora measure, the horizontality of the taubuki finally checked.

The intermediate oka were then placed in position and lashed. The eastern oka always lay to the north of the western oka where they met above the taubuki. See figure 22.

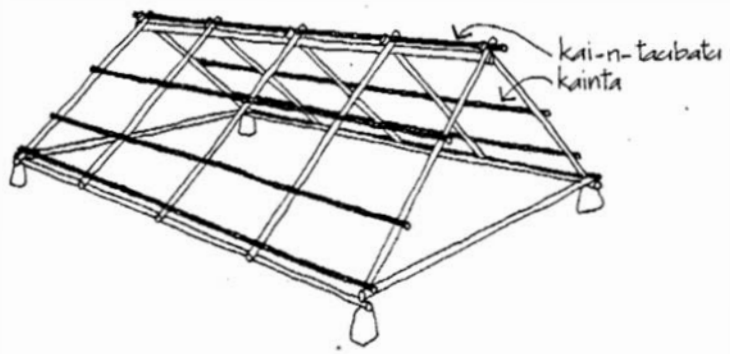


ERECTION OF OKA AND TAUBUKI

FIGURE 22

The oka were lashed to their supports with a knot known as itoi tabara (separate stars). The itoi (star) section of the knot was always tied across the tatanga and hence faced the interior of the bata. The oka were lashed separately to the taubuki, by means of a bukininai lashing.

The next timbers to be secured were the kainta or kaukau (purlins), three to each side as shown. See figure 23. The kainta were secured to the oka by an itoi style of lashing. The star section of the knot was always tied across the oka, again so that it faced the interior of the bata. It was possible to use a bukininai in place of the itoi to tie the kainta in position, though the itoi was preferred owing to its simplicity. It was essential that whatever the chosen lashing it was used exclusively; a combination of the two for tying the same components was not permitted.

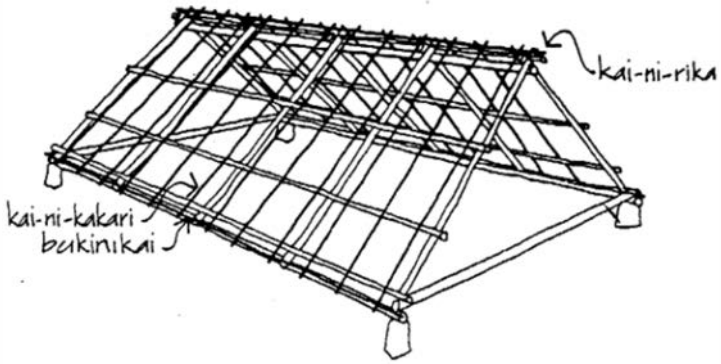


ERECTION OF KAINTA AND KAI-N-TAUBATU

FIGURE 23

The next timber to be positioned was the kai-n-taubatu, lashed to the oka in the cradle which they formed at their apex. For smaller bata, it was possible to dispense with the taubuki and use only a kai-n-taubatu to give lateral stability to the oka. In either case, it was positioned above the apex of the oka and tied with a bukininai.

The roof structure was completed by the addition of the kai-ni-kakari to all four sides and the bukinikai and kai-ni-rika to the extremities of the kai-ni-kakari. See figure 24.



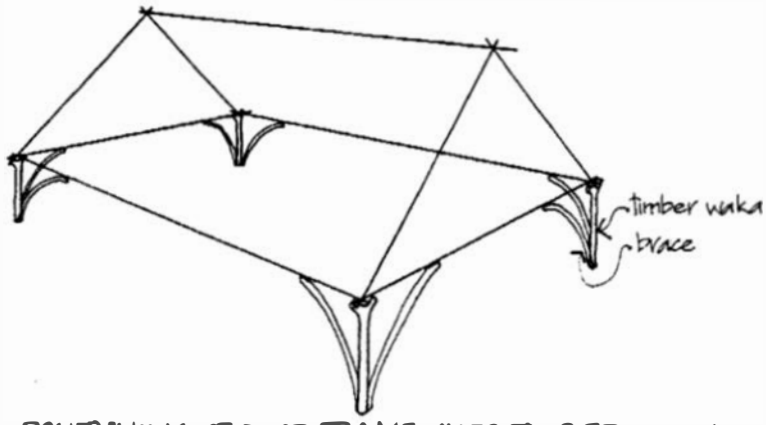
ERECTION OF KAI-NI-KAKARI

FIGURE 24

The bukinikai was fastened to the kai-ni-kakari with a knot called the bae-ni-bwebwe (butterfly knot) which covered the exposed end of the kai-ni-kakari to prevent possible head injuries when entering the bata. See figure 25

FIGURE 25

The oka, which at this stage still projected above their apex, were cut to size ready to accept the thatch. Before thatching commenced, the four corner boua were placed in position and, by manpower alone, the entire roof structure was lifted into position. It was rare to secure the roof to its supporting posts. Certainly with stone boua this would have been difficult to achieve. Where timber waka were used, the roof was occasionally secured with a lashing that was essentially a bukininai. This type of structure was usually braced. See figure 26.



POSITIONING OF ROOF FRAME ONTO TIMBER WAKA

FIGURE 26

(iii) Thatching

Thatching commenced at the bottom row of the north-west corner and proceeded to the south-west corner. It recommenced at the south-east corner and continued to the north-east corner. The northern gable was then thatched from the north-east to the north-west and finally the southern gable was thatched from the south-west to the south-east. See figure 27. When the bottom row was complete, thatching proceeded in this order until the roof was totally covered.

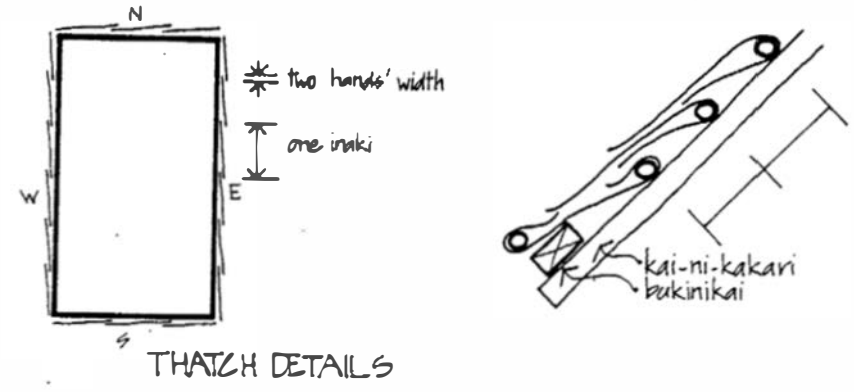


FIGURE 27

Each thatch lapped the adjacent thatch at either end by two hand's widths, presenting an internal thatch division of one inaki. The vertical overlap could vary, but to extract maximum life from the roof a spacing of 70 - 100mm was desirable. In place of the special bottom thatch, te bai-ni-keketi, it was possible to use a double thickness of conventional thatch placed reverse side up. See figure 27.

When the thatching had reached the ridge it was overlaid with woven coconut leaf ridge-capping, te kabaraki, which was fastened with te ngea pins passed underneath the kai-ni-rika. See figure 28.

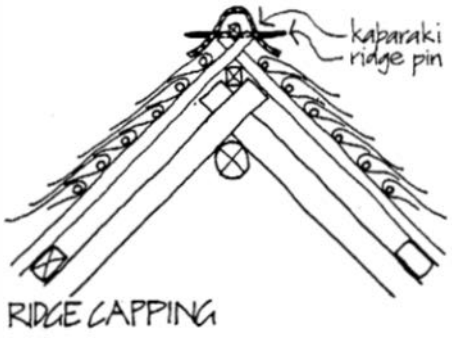


FIGURE 28

(iv) Completion of the bata

The final details which completed the bata were as follows:

(a) Coconut screens, baka-tarawa, were hung on all four sides. See figure 29.

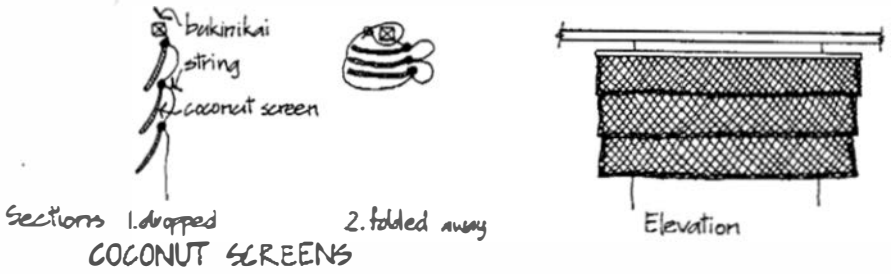


FIGURE 29

(b) The earth floor was levelled and a layer of coral shingle (te atama) spread over it. The floor was then covered with coconut mats (te inai) and finally pandanus floor mats (te roba).

(c) When everything was in place the projecting bottom layer of thatch was trimmed off level. The trimming began at the north-west corner and progressed anti-clockwise but by-passed the south-west corner of Bakoa which was last of all to be cut. The trimmings were then collected and burned.

6.7 CULTURAL SIGNIFICANCE OF BATA CONSTRUCTIONAL PRACTICE

In traditional culture, the process of bata construction was precisely organised. The various stages of construction and the activities associated with them occurred in the specific order outlined in the previous section. Most stages were accompanied by ritual observances, climaxing

in a feast (te tabomoa) held upon the completion of the bata and attended by the entire utu living in proximity.

Unfortunately, the details of these rituals have become confused in the minds of contemporary Gilbertese with those associated with maneaba construction. In an effort to maintain accuracy, only those rituals associated with maneaba construction will be outlined (and in that section), but it can be stated that the purpose of those rituals which were associated with bata construction were primarily aimed at ensuring the welfare and good fortune of the bata occupants, and their protection against the presence of evil forces.

In this respect, the magical significance of the procedures of bata construction, like the magical significance of the bata structure itself, must be seen as basically symbolic and expressive. Though 'primitive' Gilbertese society was certainly possessed of a significant body of empirical 'scientific' knowledge, there were many areas of daily experience which could not be controlled or explained on this basis. Ill-luck, sickness, and death were among those experiences for which there existed no empirically tested method of control. Because it would have been intolerable to have left these experiences totally outside the possibility of human intervention, magical practice served as an institutionalised symbolic means of dealing with them. This is not to say that the Gilbertese did not believe in the efficacy of these practices; they certainly did so. However, their symbolic nature rendered them immune to empirical testing.

When this is realised, it is easier to explain the endowment of both the bata structure and the bata constructional procedure with magical properties. It was not that the bata structure or bata constructional practice had been found, through experiment, to be effective in the control

of magical forces. Rather, where the forces were those which affected the welfare of residents of the bata (as opposed to, say, the success of a crop or the supply of fish), the bata itself was seen as a particularly appropriate symbolic vehicle for use in the control of those forces.

The role of the specialist builder and the means by which he maintained his position have been noted in respect to the existence of a number of bata styles, of which he alone held detailed knowledge. Similarly, his monopoly of the details and associated rituals of the actual bata construction process further ensured the need for his services and hence the maintenance of his position within his society. Additionally, the absolute necessity of engaging a specialist builder emphasises the degree to which spiritual forces were thought to exert their influence on the day-to-day processes of traditional Gilbertese society.

Lastly, the constructional practices and procedures employed in the erection of the bata must be seen within the broader range of Gilbertese technology and resource exploitation. The basic Gilbertese stock appears to have come in at least one migration from the west, a migration directed to not only the Gilbert Islands but most of Micronesia. The material resources of this broad geographic area are basically similar, being principally timber, stone, coral, shell, and various fibres (pandanus, coconut, banana, and hibiscus). So it is not surprising to find that the two principal technological products of the people of Micronesia, namely their architecture and canoes, were similar in structure and design, and that similar materials were used in their construction. Though it seems that a broad technology and material culture was shared throughout Micronesia, each cultural group developed its own detailed variations.

6.7.1 Choice of Materials

The limited resources offered the Gilbertese by their harsh atoll environment left little scope for applying cultural considerations to the choice of building materials. Only the pandanus and coconut grew in sufficiently straight lengths to provide suitable building timbers. Of these, the coconut was the superior timber in terms of both strength and durability. The Gilbertese certainly possessed the skill and technology to work coconut logs to timbers of any dimension. Nowhere is this better illustrated than in the construction of their canoes, which were built up from coconut planks, no more than half an inch thick, carefully shaped and lashed together with coconut sennit to form a waterproof, asymmetrical, hydrodynamically shaped hull. See figure 30 .

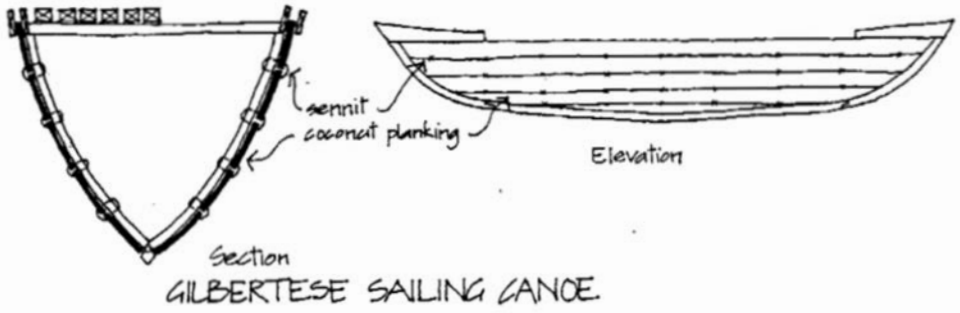
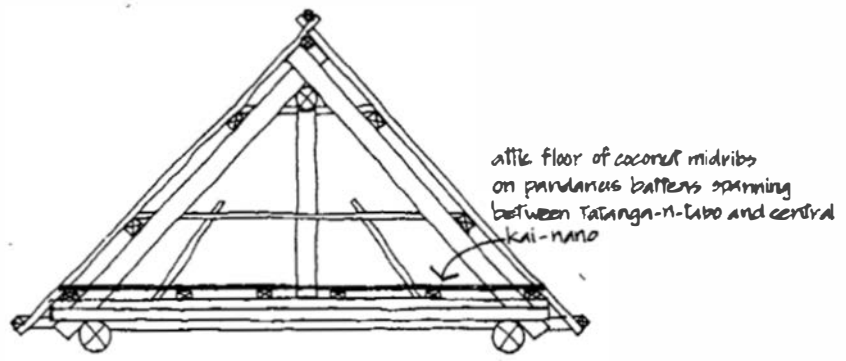


FIGURE 30

However, though it was possible to use coconut in bata construction, pandanus was the preferred timber. This was undoubtedly due to the smaller diameter of mature pandanus logs, and their workability.

Both coconut and the pandanus were also major food sources, but by felling the trees only after their fruit production had declined to almost zero, the Gilbertese exploited these valuable resources to their maximum.

The absence of conventional walls or raised suspended floors in the traditional bata structure should not be interpreted as an inability on the part of the Gilbertese to construct these elements. Again, the high level of technology and expertese employed in the construction of canoes would have been more than adequate for this task. In fact, where an attic was included in the bata ceiling, a coconut midrib floor capable of withstanding substantial loads was readily constructed. See figure 31.



SECTION THROUGH BATA ATTIC SCALE 1:50

FIGURE 31

The coconut midrib was first trimmed to remove its curled lip, and two such midribs, laid in opposite directions, compensated for the longitudinal cross-sectional variation of each rib. Attic walls were constructed in a similar fashion. So the on-ground floor and the lack of walls should rather be interpreted as a response to a combination of prevalent climatic conditions on the one hand, and the behavioural characteristics of the mwenga population on the other.

6.7.2 Structure

In both their architecture and canoe building, the Gilbertese showed a clear understanding of the structural performance of their products. The principal of triangulation was used in the roof structure and the bracing systems, rafters were positioned on edge for maximum bending moment resistance, and lashings were elaborate and specifically designed to permit minimum movement at the joints.

1 This practice was probably more common following times of warfare when the male population may have been considerably lower than the female population.

2 Nikiranroros were non-virgin unmarried women, and possibly had children of their own.

3 This is, for example, the case on the island of Tarawa where one of the larger islets forming the atoll runs approximately east-west.

4 The unit measurement known as te nga is the distance from outstretched fingertip to fingertip. A table of Gilbertese units of lineal measurement is given in Appendix 2.

5 The specific names of these sub-divisions could not be ascertained.

6 This and the following quotations are translations of informant comment.

7 That is, those individuals who were responsible for organising the economic tasks of the mwenga.

8 J. Beattie, *Other Cultures*, London, 1966.

9 See Chapter 3, p.109.

10 This quotation is a translation of a story collected on Onotoa.

11 E. Sabatier, *Gilbertese-English Dictionary*, Tarawa, 1971.

12 P.E. Cloud, 'Preliminary Report on Geology and Marine Environments of Onotoa Atoll, Gilbert Islands', *Atoll Research Bulletin*, 12, 1952.

chapter 7

THE USE OF SPACE WITHIN THE MWENGA

7.1 INTRODUCTION

The analysis of spatial usage within traditional mwenga sites is beset with a number of difficulties. In the first instance, in the Gilbert Islands, it was the mwenga which was the scene of day-to-day activity, that is, where social activity was in its least formal and structured state. If it were a sociology of the Gilbertese which was here being described, it could then be legitimately argued that such social activity, being the real stuff of social existence, should form the primary reference data for analysis. But while the major concern remains the formal aspects of Gilbertese architecture it is suggested that the very informality of day-to-day social activity implies that the architectural environment is of greatly reduced importance to such activity.

Secondly, the minutiae of social affairs before European contact are extremely difficult to recover, from either the present Gilbertese inhabitants or from the physical remains of earlier settlement sites. Such details were not naturally contained in the sort of information which was carefully passed from generation to generation, and the susceptibility to decay of the constructional materials used in Gilbertese architecture has resulted in a paucity of archaeological evidence.

Further, to infer past behaviour from contemporary behavioural patterns and then to plot its transformation into current patterns would be tautological in the extreme. Nevertheless, information is not totally lacking and it is possible to engage in a limited amount of testable speculation which is valuable to the development of this argument and as a background to further research.

7.2 MWENGA INHABITANTS

7.2.1 Adult Males

From the age of about five the young Gilbertese male was discouraged from fraternising with females, to do so being regarded as effeminate behaviour. Because the majority of economic masculine tasks took place in the bush, at the lagoon, or on the sea, all situated far from the mwenga, males spent few of the daylight hours there. However, some tasks, net repair and other craft works, were conducted in and around the mwenga and of necessity during daylight.

Within the loosely differentiated space of the mwenga there were no particular areas reserved for such male activities and so it is likely that they were carried out in a space defined not of itself but in relation to the female working areas. This may of course have been a function of spatial distance but could equally well have been achieved through social distancing, a turned back or the cessation of conversation, for example. There was, then, no area of the mwenga which could be designated as a male preserve.

7.2.2 Unimane and Unaine

Most unimane remained active until very late in life, though they often restricted themselves to the less strenuous economic tasks of babai cultivation and lagoon fishing. They were thus forced to spend more and more time at home. By that stage, however, their children would be married and so the mwenga of a unimane and his wife, if she were still alive, would be relatively deserted compared with the adjacent mwenga of those of his married sons who had remained on their father's kainga. It was in these sons' mwenga that women would congregate during the day, and the old man's mwenga (though often also the habitation of grandsons and granddaughters who were being instructed

in the ways of Gilbertese culture) took on the semblance of a sanctuary for the unimane and unaine, a place of privacy which demanded a certain respectfulness in the behaviour of those other individuals who might be in and around it.

7.2.3 Adult Women

During the day, the mwenga was the domain of the women. Even with the kainga, both married and single women alike were not expected to venture far from the mwenga unaccompanied, and few of their tasks demanded such journeys. They did on occasion accompany their menfolk on fishing excursions and to the babai pits. Apart from the collection of firewood and water, the fossicking for shellfish, all the food preparation and craftwork were carried out at the mwenga site. Cooking and food preparation naturally took place close to the earth oven. The weaving of thatch and the drying of food were done in the open around the mwenga. Most other craftwork, including the weaving of mats and baskets, and the preparation of string and thatching fibre, was conducted under the mwenga roof adjacent to the storage attic above.

7.3 ACTIVITIES

7.3.1 Food Preparation and Meals

The Gilbertese traditionally ate two meals a day, but this pattern was only loosely followed. Gilbertese fare came under two categories, the fresh and the preserved. It was difficult in a tropical climate to keep food fresh, and in this category only the coconut was quickly and readily available throughout the year. At the same time, the availability of preserved fish, coconut, and pandanus, supplemented by fresh coconut toddy collected at sunrise and sunset, enabled a light morning meal and a slightly more substantial evening meal to be taken before and after the

day's activities.

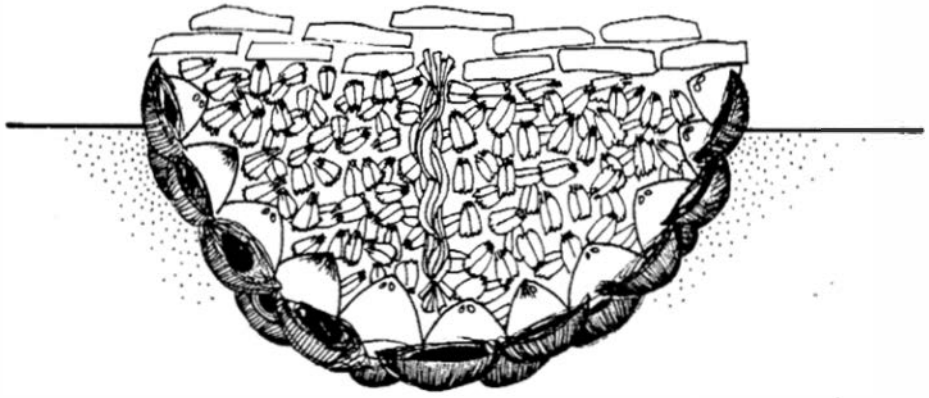
Supplementing and replenishing the stores of preserved foods were intermittent supplies of fresh seafood, babai, and pandanus and breadfruit in season. When a fresh catch of fish arrived at any hour of the day or night, or when fresh pandanus or breadfruit were collected, a meal was often taken on the spot regardless of the time. These meals would then supplant the regular meal and no further food would be eaten until everyone became hungry again.[1] The timing of meals and the quantity consumed was therefore dependent not so much on the time of day as on the availability of the food supply.

This informality was carried through to an overall informality in eating arrangements. No etiquette defined meal times or those who were to be present. Through habit and convenience rather than custom it was common, however, for all the mwenga to eat together as a unit, with the exception of menstruating women and girls who were required to eat apart and observe other strict rules against the use of utensils.[2]

Meals were eaten either in the open or within the mwenga, and it was customary for the women to bring in the food and place it before the males. No ceremonies accompanied the meal, though it was respectful to allow the unimane of the mwenga first choice of all the foods. In their old age, the unimane could be attended by their grandchildren, though Grimble notes that in practice, by the time he wrote, respect for unimane had declined to an extent where many of the elders were neglected and half-starved.[3] The meal was placed in the centre of a large mat (te raurau), with the male diners sitting cross-legged around it. Women and children sat to one side and could only eat after the males were replete.

All the food was served together and the individual was left to determine the order of eating. Implements were minimal and were made usually from bone and shell. Food was served on cooking leaves placed on the raurau, either directly or occasionally in a large wooden bowl. Ladles and cups were made from a range of different-sized half-shells of the coconut. All the cooking and eating hardware was washed on completion of the meal and stored, either in the eaves or in the attic of the bata.

Most cooking was done on an open fire or in an earth oven (te ai-n-umum). The oven, situated close to the bata, had a number of variations, but most commonly it consisted of a shallow depression some 250mm deep and 500 - 600mm



GILBERTESE EARTH OVEN [4]

FIGURE 1

in diameter.[5] This was first lined with a single or double layer of dry coconut husks, followed by a layer of coconut half-shells, face down as shown. See figure 1. The oven was then filled with fibrous kindling, usually the chewed and discarded pandanus seed cones. A wick (te ing), made from the fibrous surround of the base of the coconut frond, was inserted down the centre of the oven to the base and the whole finally capped with a double layer of flat stones. The wick was then lit and the fire allowed to burn itself out until the stones settled close to the base of the hearth and neither flames nor smoke issued. The raw food, sometimes leaf-wrapped, was then placed on the stones, or on a grate of green coconut midribs laid across the stones, and the oven covered with an old mat. Water could be added for steam cooking if required.

7.3.2 Sleeping and Ablutions

Each occupant of the mwenga, children aside, had his/her own sleeping mat (te kie) and an allocated place for it within the bata, where they all slept each night. Where the mwenga was large, some occupants may have resided in a second bata. The orientation of the sleeping positions was however unimportant, except that some informants suggested that the adult males would always sleep adjacent to the outer edge of the bata. There they could sleep close to their weapons and in a position from which they were able to defend the rest of the mwenga in the event of an attack. It was also suggested that it was common practice for the males to sleep with their heads on coconut shells so that their sleep would be light and they would wake at the slightest sound.

The actual likelihood of an attack on the mwenga could not be accurately ascertained though apparently warfare was not indiscriminate. Although violence was common throughout the society, it normally occurred in conjunction

with social disputation and so mwenga inhabitants would expect to have some forewarning of the probability of an attack. While it was not necessary therefore to have any form of elaborate defence structure surrounding or incorporated within the mwenga, the advantage of forewarning combined with the low eaves overhang which all bata possessed was deemed sufficient to prevent unwanted intrusions.

The mwenga contained no provision for ablutions. Bathing was done in the ocean or lagoon, followed by a rinse in the freshwater ponds situated towards the centre of the atolls. The ocean and lagoon shores were also used for defecation.

7.3.3 The Gilbertese Concept of Privacy

Gilbertese domestic life operated under a very different concept of privacy from that prevalent in contemporary Western society. Though little research was conducted in this area, certain regularities can be usefully documented.

Most daily activities were conducted under public scrutiny and, as with most small communities, each individual liked to know and keep his eye on what his neighbour was doing. Though the analysis could go much deeper, it can be said that such an arrangement had the advantage of helping to secure widespread conformity to cultural and social norms, a conformity which was desirable in a community whose way of life was finely attuned to its harsh and tiny physical environment.

The open-sided house, expressive, like the lack of any internal partitioning, of the 'public' nature of the Gilbertese lifestyle helped to develop an attitude whereby personal privacy was not dependent upon visual or aural screening but was achieved through social means. Activities like

defecation, sex, undressing, and bathing were conducted 'in the open' but privacy was achieved through the attitude of those nearby who could be relied upon to avert their attention whenever and wherever such activities occurred. Additionally, whenever possible such activities were conducted away from the bata, in the early hours of the morning or after dark.

Certain mwenga were surrounded by high stone walls (te o). Maude surmises that, as a clan of sorcerers were also possessed of this name, the walls probably served to provide privacy for their activities and that it was only in the mwenga of sorcerers that they would be found.[6] In the majority of mwenga there was no formal dividing line between public and private territory since all mwenga were, strictly speaking, on the property of the head of the kainga. The gravel area around the bata served as a territorial boundary of an informal kind, but any visitor to the mwenga would as a matter of courtesy announce his arrival with a shout delivered well before he reached the gravel.

7.3.4 Summary

With regard to mundane domestic activity, the mwenga must be seen as almost undifferentiated spatially, with most areas subject to multiple usage. Though the activities performed were consistent from mwenga to mwenga, the spatial orientation of these activities was not. From mwenga to mwenga the spatial layout varied according to the desires of the mwenga residents and site conditions (topography and vegetation). Even within a single mwenga, the location of activity areas could vary over time.

From the basic internal/external distinction, however, some differentiation can be made. The distinction operated in conjunction with the notion of shelter, whether from the elements, from attack, or from the intrusion of privacy.

On this basis, for instance, meals and domestic labours could be conducted in the open, weather permitting, whilst the security and privacy required for activities like sleeping, or on the occasions of birth or sickness, invariably forced people inside the bata. Nevertheless, the shape, orientation, and arrangement of mwenga space was of little concern in the performance of domestic tasks and activities. Included below is a conjectured behavioural map for a typical pre-contact mwenga site. See figure 2.

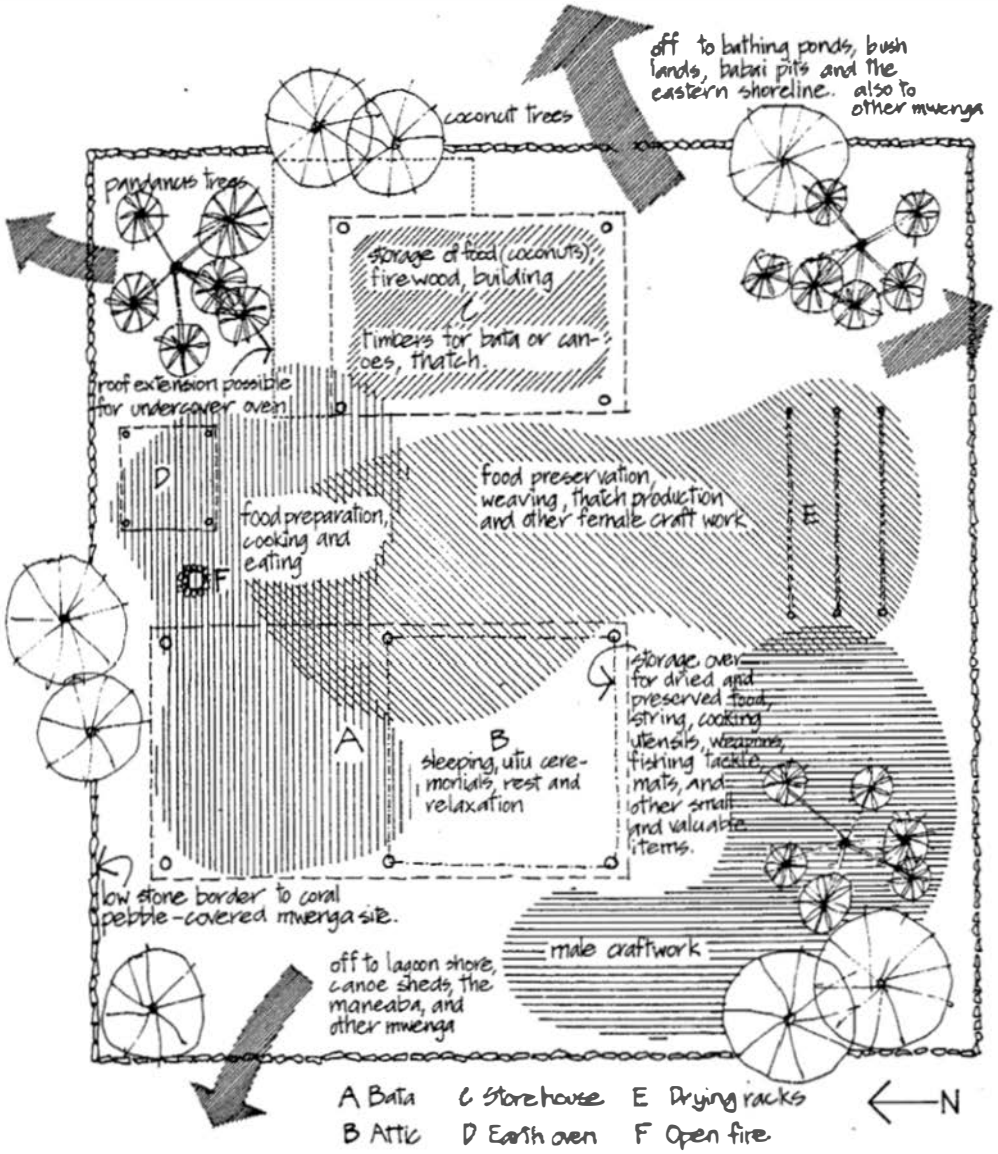


FIGURE 2 DISPERSAL OF ACTIVITIES AROUND THE MWENGA

7.4 RITUAL, MAGIC, AND SOCIAL GATHERINGS

7.4.1 Introduction

If the bata form was insignificant as a spatial setting for the performance of daily domestic activity, it was of considerably more import for the part it played in defining and expressing abstract notions connected with the mwenga as a social unit. This is most readily seen in the relationship between the bata and the magico-religious rituals which accompanied the major social events in the Gilbertese life-cycle.

7.4.2 Birth

The mother gave birth to her child in the north end of the bata and afterwards remained with it there for three days. In this position the child was said to be passing its appointed time in the uma-n-anti (house of the gods). During this period a large bonfire was kept alight on the eastern side of the bata, where the combined family of the father and the mother danced and feasted in the ceremony known as kaura-n-te ai (lighting of the first fire). This ritual was conducted to pacify the female spirit Aibong, an ogress dwelling on the northern horizon who was believed to be a spirit hostile to pregnant women and their babies.[7] By occupying the northern end of the bata, the mother and child were seen to be symbolically in the company of Aibong on her northern horizon, and hence the ritual could be said to be conducted in her territory and for her specific attention. The significance of the fire on the eastern side of the bata is discussed below.

Grimble records that on the fourth day the infant was removed to another bata especially prepared for it, where it was said to have 'gone over into the house of man' (the uma-n-aomata).[8] In this house the mother and child were

costumed and prepared to receive visitors. It is not clear whether this was a new bata especially constructed for the occasion or an already existing one. It would seem likely that during the last days of pregnancy the expectant mother would have dwelt in one of the additional bata of her mwenga, or that of her parents-in-law, where she could have some peace and quiet. In this instance the uma-n-aomata would merely have been her normal abode. The intention of the move is clear, signifying the child's transition from the spiritual world to the secular, in which case the move to the family's bata would have been consistent.

7.4.3 Initiation

At an early stage in male and female initiation rites the initiates were engaged in extended ceremonies which centred around the bata. The male underwent a series of painful ordeals connected with a fire lit on the eastern side of the bata, in front of which he sat, also facing east. The female, in contrast, occupied the western side of the bata, facing west. The sexual significance of these orientations has been discussed in detail previously. See Chapter 6, p.230.

7.4.4 Ritual and Magic

A number of ritual and magic practices were executed on the eastern side of the bata directly in line with the central rafter, and with the performer facing east, often with head raised towards the sun. Auriaria was the spirit of the ancestral pandanus, Nei Bakatibu-Taai (Woman Ancestor-Sun), and the name itself can be translated as Au-the-continually-rising (over the horizon). Taai (the sun) and Auriaria can therefore be seen as synonymous. Furthermore, as both Auriaria and Taai are spirit and totem respectively of the ruling Karongoa clan, Grimble suggests that, at an early period, the Samoan Gilbertese were engaged

in a sun worship cult, the remnants of which have survived in many of their ritual practices.[9]

7.4.5 Summary

Gilbertese magico-religious practice operated at three distinct levels. The first involved the entire adult male maneaba community and took place within that structure. The second involved the adult kainga population and centred on the kainga uma-ni-mane and the kainga bangota. The third involved the individual and/or his mwenga co-residents. The incorporation of the spiritual in the day-to-day life of the islander has already been noted and the environmental settings of the rituals practised by the individual were thus many and varied. Numerous spells and incantations accompanied, for example, the baiting of a fishing hook, the planting of a babai root, or the sight of a loved one. Except for the necessarily random location of some of these observances, the eastern beach, the mwenga or utu bangota, and the mwenga itself were habitually used for ritual practice.

The mwenga, the centre of the individual's world, his 'place' on earth, was evidently an important orientational symbol within these rituals. Whereas, to the Gilbertese as a race, their islands and the surrounding oceans, horizons, ocean depths, and heavens, in other words, their world, were used to help express the relationship of their deities to each other and to them, the microcosm of the mwenga served to encapsulate these same relationships in the mind of the individual.

1 According to Grimble, it was common practice to awake about midnight and finish the remnants of the evening meal.

2 A. F. Grimble, 'The Migrations of a Pandanus People', p. 43.

3 *Ibid.*, p. 44.

4 *Ibid.*, p. 7.

5 A complete description is given by Grimble, *op. cit.*, p. 6.

6 H. E. Maude, *The Evolution of the Gilbertese Boti*, p. 33.

7 E. Sabatier, *Gilbertese-English Dictionary*, Tarawa, 1971, p. 6.

8 Grimble, *Migrations, Myth and Magic from the Gilbert Islands*, London, 1972, p. 72.

9 Grimble, 'The Genealogies of the Gilbert Group', unpublished manuscript in the possession of H. E. Maude.

chapter 8

THE GILBERTESE MANEABA: ARTICULATION AND USE OF SPACE

8.1 INTRODUCTION

The maneaba or meeting house has already been mentioned briefly with reference to its connection with origins of social structure and the kainga estates. There follows here a more complete account of the importance of this edifice within the Gilbertese culture, beginning with a description of its physical form and associated constructional practice.

8.2 PHYSICAL FORM

8.2.1 Proportions

The various invading groups from Samoa brought three distinct styles of maneaba to the Gilbert Islands. The first of these, the Tabontebike, was built at Nuka on Beru by the Karongoans. Both remaining styles, Maungatabu and Tabiang, were also eventually built on Beru by other invading Samoan clans. The three differed in plan proportion and internal boti layout. Though through chance historical circumstance each maneaba in the islands had a slightly different boti layout, certain boti positions, generally those of the most important clans, were invariable within a style. Thus, in Tabontenbike maneaba the karongoa boti is always found in the north, whilst in the Maungatabu and Tabiang maneaba, Karongoa, if included at all, lies on the eastern side below the central rafter. Likewise, Keaki, when present, will occupy the boti located beside the south-east cornerstone. But most importantly, it was the maneaba proportions by which the styles were to be differentiated and recognised. The evidence in the literature is not consistent from source to source, nor do the proportions given match with the existing physical structures. The variation in style nomenclature is not problematic, and such differences, the result of historical circumstance, were common from island to island. From information and measurement collected on

Onotoa, where incidentally both description and measurement were consistent, it appears that the following would be an acceptable account.

In measuring the proportions of a maneaba the ratio of relevance was that of the longitudinal roof plate, the tatanga, to that known alternatively as the tatanga-n-rama. Through a complex proportioning system, the three major maneaba styles, each of which had three further sub-divisions, were proportioned as follows.

Major Sub-division		Sub-division	Ratio L/B
TABIANG	-	Tabiang	36/28
TABIANG	-	Tabontebike	35/29
TABIANG	-	Maungatabu	34/30
MAUNGATABU	-	Tabiang	40/24
MAUNGATABU	-	Tabontebike	39/25
MAUNGATABU	-	Maungatabu	38/26
TABONTEBIKE	-	Tabiang	44/20
TABONTEBIKE	-	Tabontebike	43/21
TABONTEBIKE	-	Maungatabu	42/22

Informants on Onotoa stated that the height of the ridge plate (the taubuke) above the tatanga was to be in the same proportion as was the tatanga-n-rama to the longitudinal tatanga. This proportion thus controlled the pitch of the maneaba roof, and, though the Onotoans could not supply the names for these proportions, it was agreed that there were nine such pitches possible.

Maude however nominates 10 possible pitch variations:[1]

1. Tauauta
2. Tokaboua
3. Tokamamao
4. Numakabu

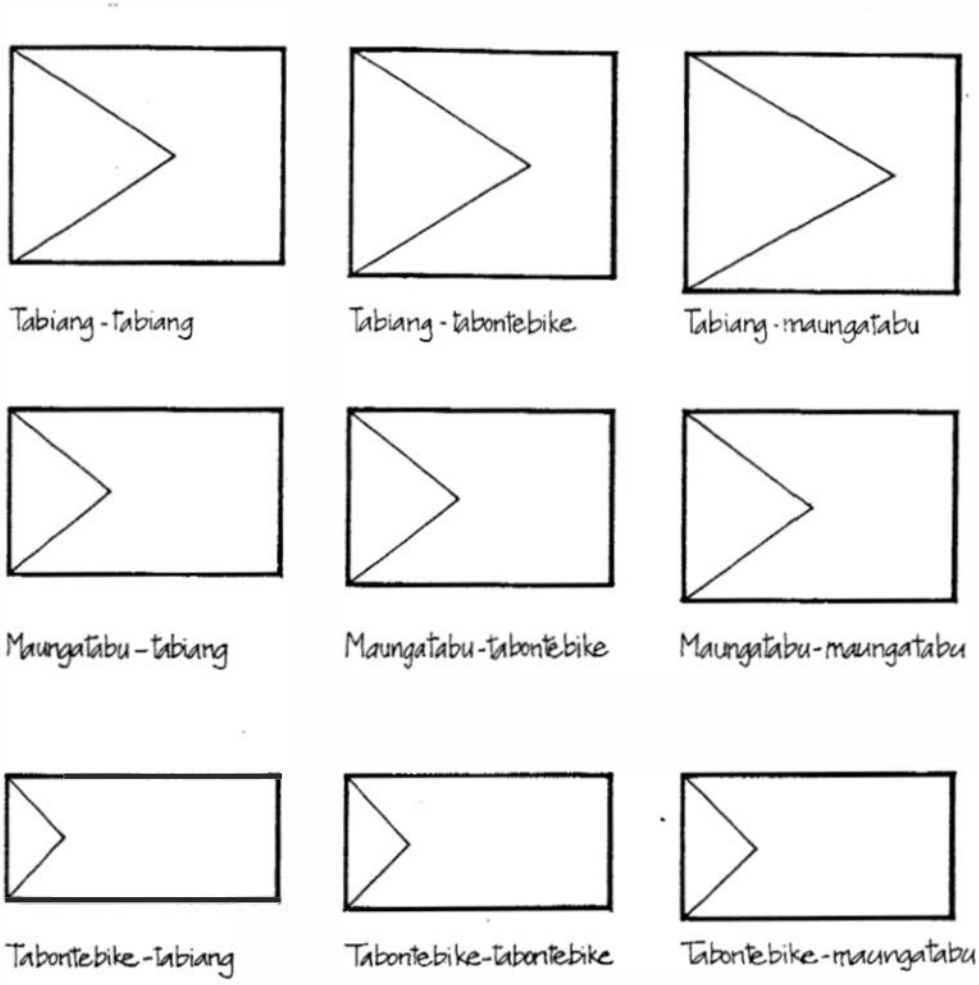
5. Numawete
6. Kariaba
7. Teieta
8. Ngonio
9. Te Ki Matang
10. Taberan te Kai

Though not supplying details of the proportions entailed, he goes on to state that properly the Tauauta (1) should be used on a TABIANG-Tabiang (1) style maneaba, the Tokaboua (2) on a TABIANG-Tabontebike (2) style maneaba, and so on. Where the tenth is used is therefore not clear.

Grimble gives nine pitch variations:[2]

1. (Un-named)
2. Tokaboua
3. Tokamamao
4. Ngaoniio
5. (Un-named)
6. (Un-named)
7. Teietaa
8. Taberantekai
9. Kariamatang

The similarity of the nomenclature is evident and the differences were in all likelihood local variations. The nine maneaba styles with their appropriate roof pitch are given below. See figure 1.



PLAN PROPORTIONS AND ROOF PITCHES

FIGURE 1

8.2.2 Location and Orientation

On each island there were plots of land known as bange or sanctuaries wherein any man beaten in battle or otherwise ostracized from his community could remain safe in the knowledge that no aggressor would dare violate the sanctity of such a place. It was believed that any act of violence committed within a bange would so outrage the peace of that place that the offender would be stricken with tumid swellings (te rabarabataki) and he would die in pain.[3]

On most islands there was at least one maneaba which was known and served as a bange in the full sense. On this evidence, and the fact that all maneaba were sacred places demanding seemly behaviour at all times, Grimble surmises that their sanctity was derived not from the edifice itself but as a consequence of some tradition connected with the ground on which they stood. This would imply that some attempt was made, when siting a maneaba, to choose a location which had previously held some sacred significance. Onotoans were not able to confirm this with respect to their maneaba, though they agreed that it was possible. It was indicated however that, as the site and lands adjacent to it were frequently taken over by the clan of the maneaba builder himself, he would naturally attempt to choose a plot which was both prominently visible from the lagoon approach and also which was productive of resources. It would appear then that all three criteria were important in site selection, but that in any particular situation some compromise might have been necessary. At Buariki, for instance, Taburitongaun resided on the more productive lands to the north of the maneaba site, whereas on Beru the Karongoans appointed a caretaker clan to dwell near the fishing grounds at the southern tip of Beru so that they themselves could live close to Tabontebike maneaba at Nuka. Regardless of the site, the traditional maneaba was always orientated with its longitudinal axis running true north-south. The actual

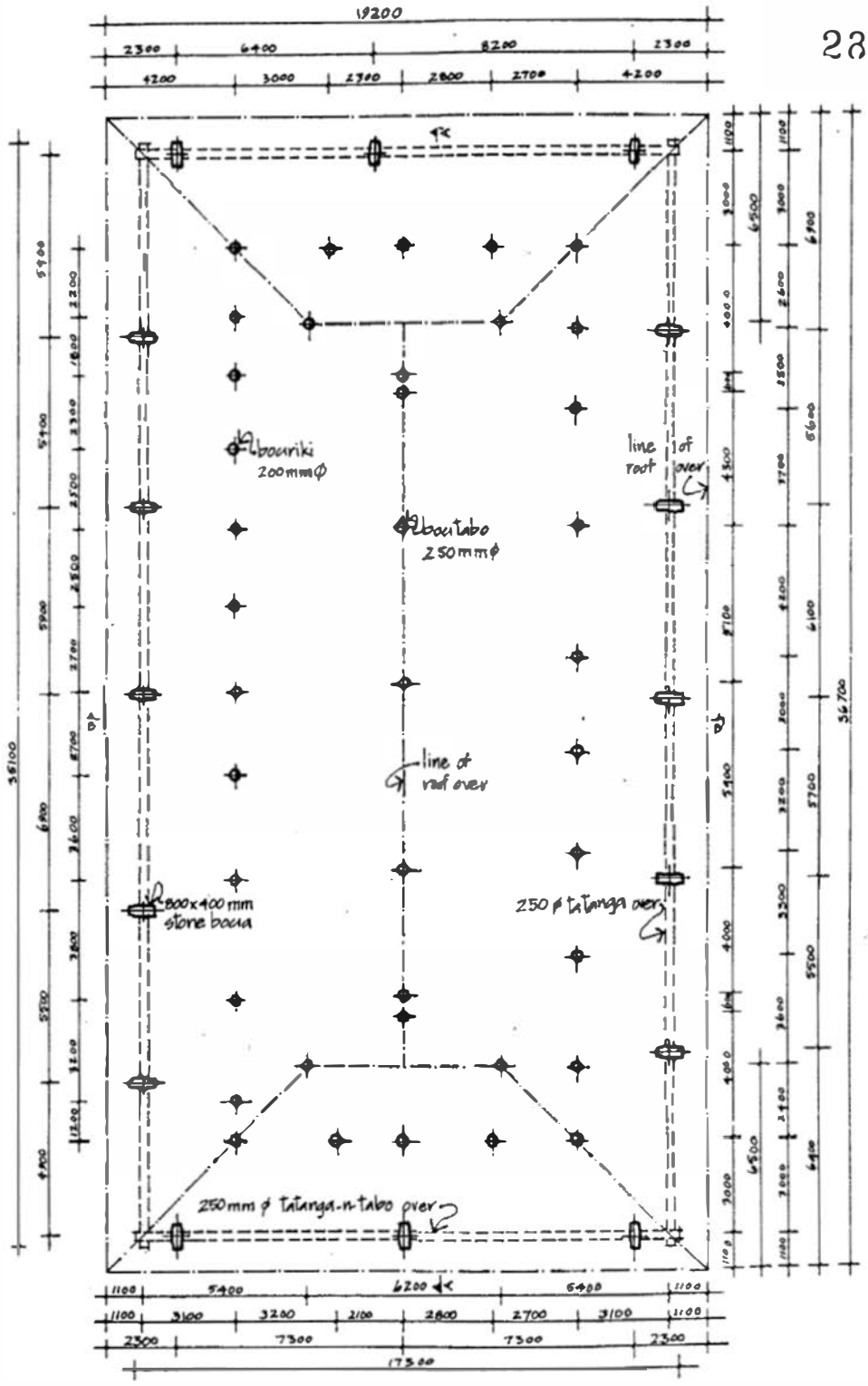
maneaba site was somewhat larger than the edifice. The pebbled ground around the building, known as te marae, was also sacred territory and regarded as a part of the maneaba itself. Normally some few metres wide, it could extend farther on the western side, depending on the contours of the lagoon shoreline.

8.2.3 Construction

To elucidate the construction process entailed in the erection of a maneaba, construction details are shown in figures 2 - 9. The maneaba illustrated are at Buariki and Tanaeang, Onotoa.

When a new maneaba was to be erected, the clan of maneaba builders in that particular district was approached. Throughout the islands, the clans of Abara and Maerua were noted for their skill in maneaba construction. Should neither of these clans be represented there was always one clan which fulfilled the same function. It was the initial task of the elders of this clan, including the unimane who was the actual master-builder, to decide the length of the new maneaba. The length chosen, expressed in nga (approximately one fathom), did not actually pertain to the size of the maneaba but to a reference standard from which the maneaba proportions were computed.

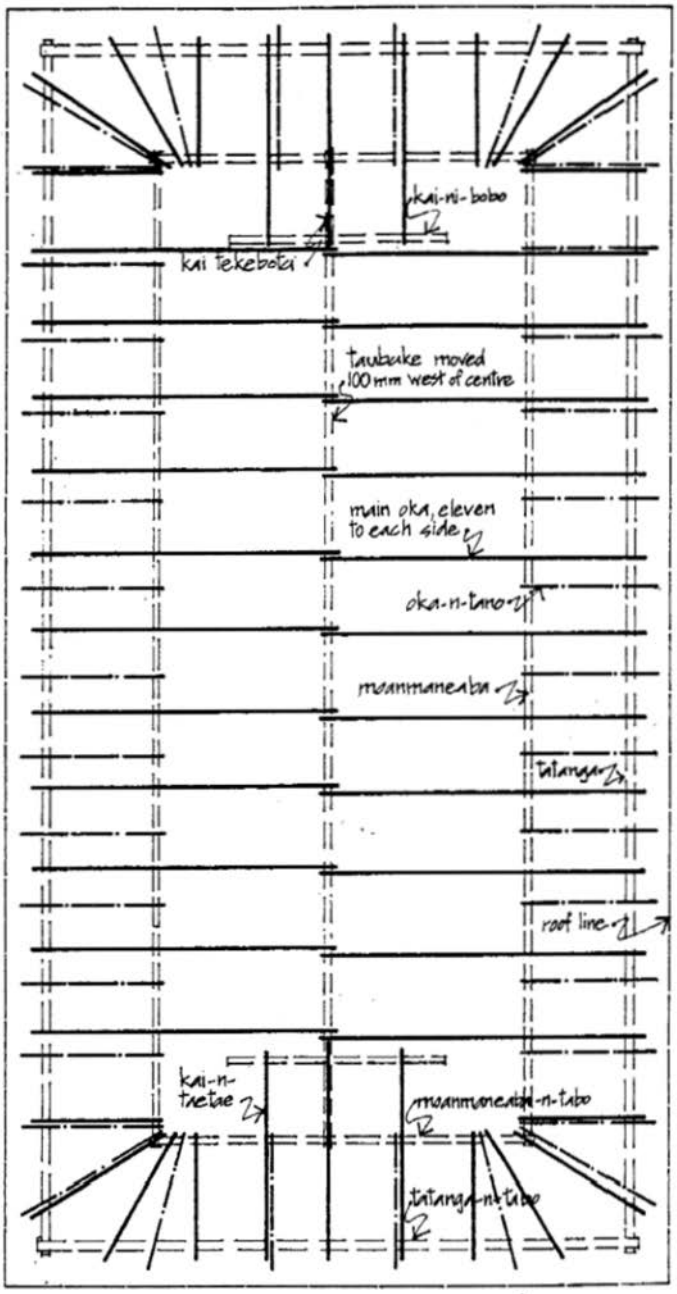
To construct the reference standard, the marae was cleared and levelled on the designated day after dusk. One sharpened coconut frond, A, was driven into the ground close to the south-east corner, and a second, B, in the north-east corner, the distance between them being the chosen 'length' of the maneaba. See figure 10. This distance was halved by the use of a measure of coconut fibre string and a third frond, C, was driven in at the midpoint. Frond D was then fixed at the midpoint of BC, frond E at the midpoint of BD, frond F at the midpoint of DC, frond E_1 at the midpoint



GROUND PLAN
TOKAMOUEA MANEABA, TANAEANG, ONOTOA
SCALE 1:200

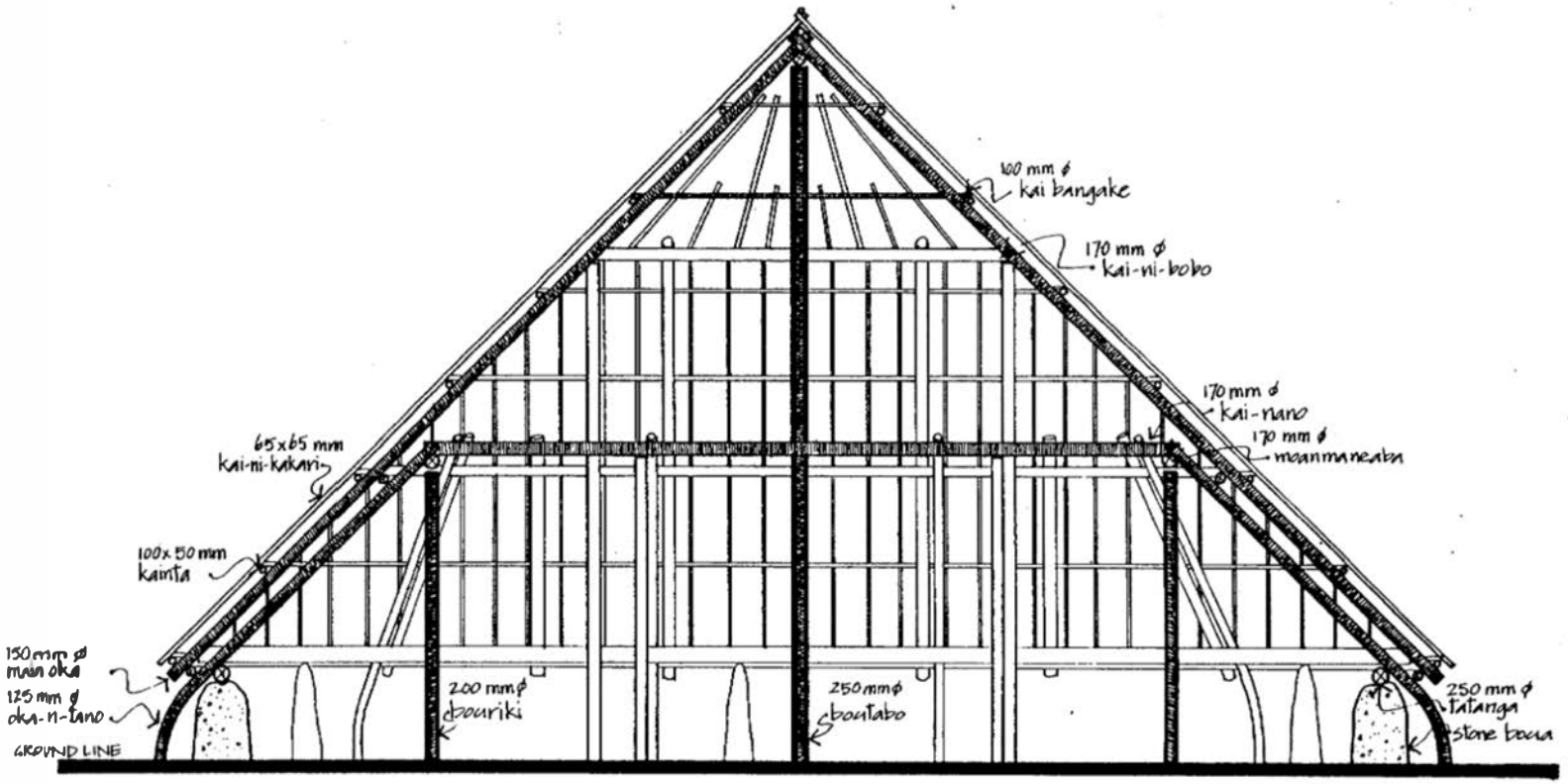
N

FIGURE 2



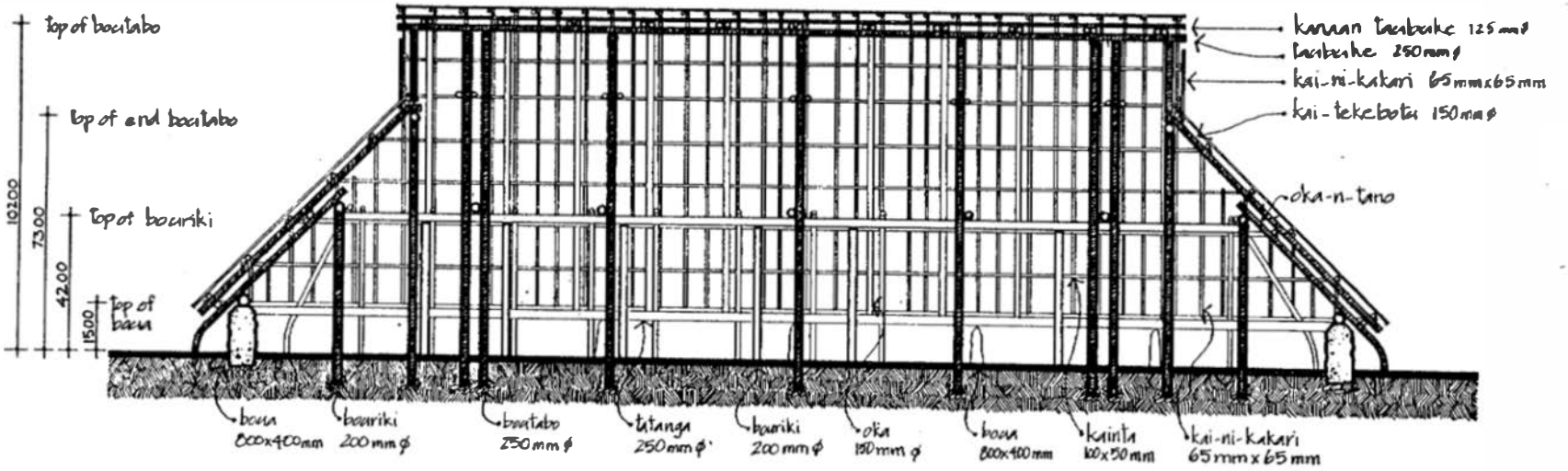
ROOF PLAN
TOKAMOUEA MANEABA, TANAEANG, ONOTOA
SCALE 1:200

FIGURE 3



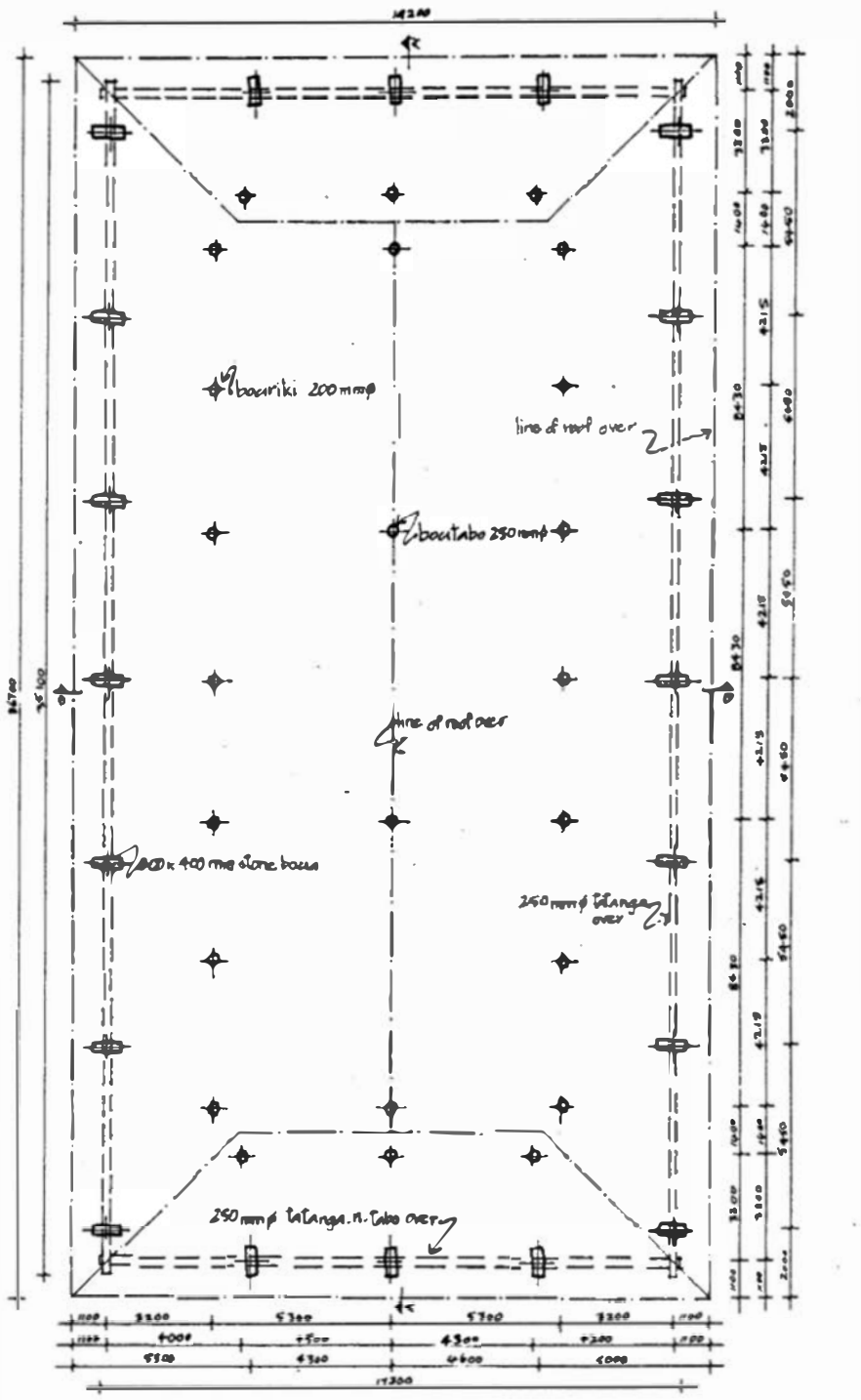
SECTION BB'
TOKAMOUEA MANEABA, TANAEANG, ONOTOA
SCALE 1:100

FIGURE 4



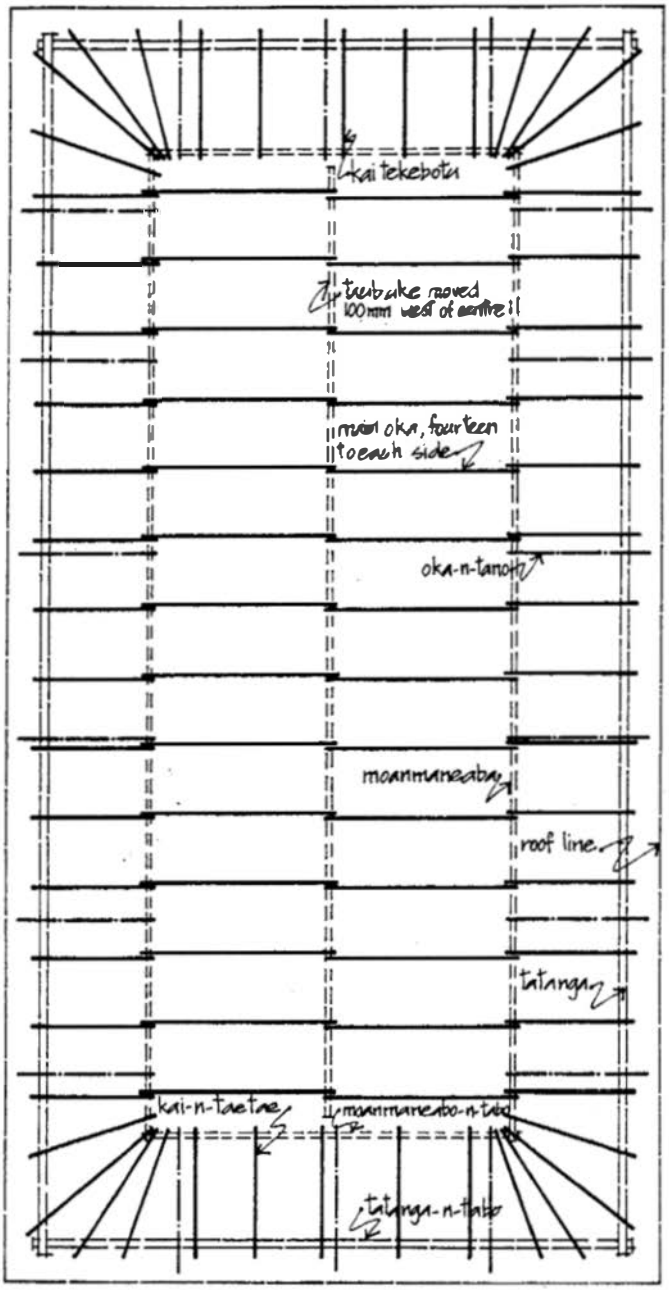
SECTION AA'
TOKAMOUEA MANEABA, TANAEANG, ONOTOA
SCALE 1:200

FIGURE 5



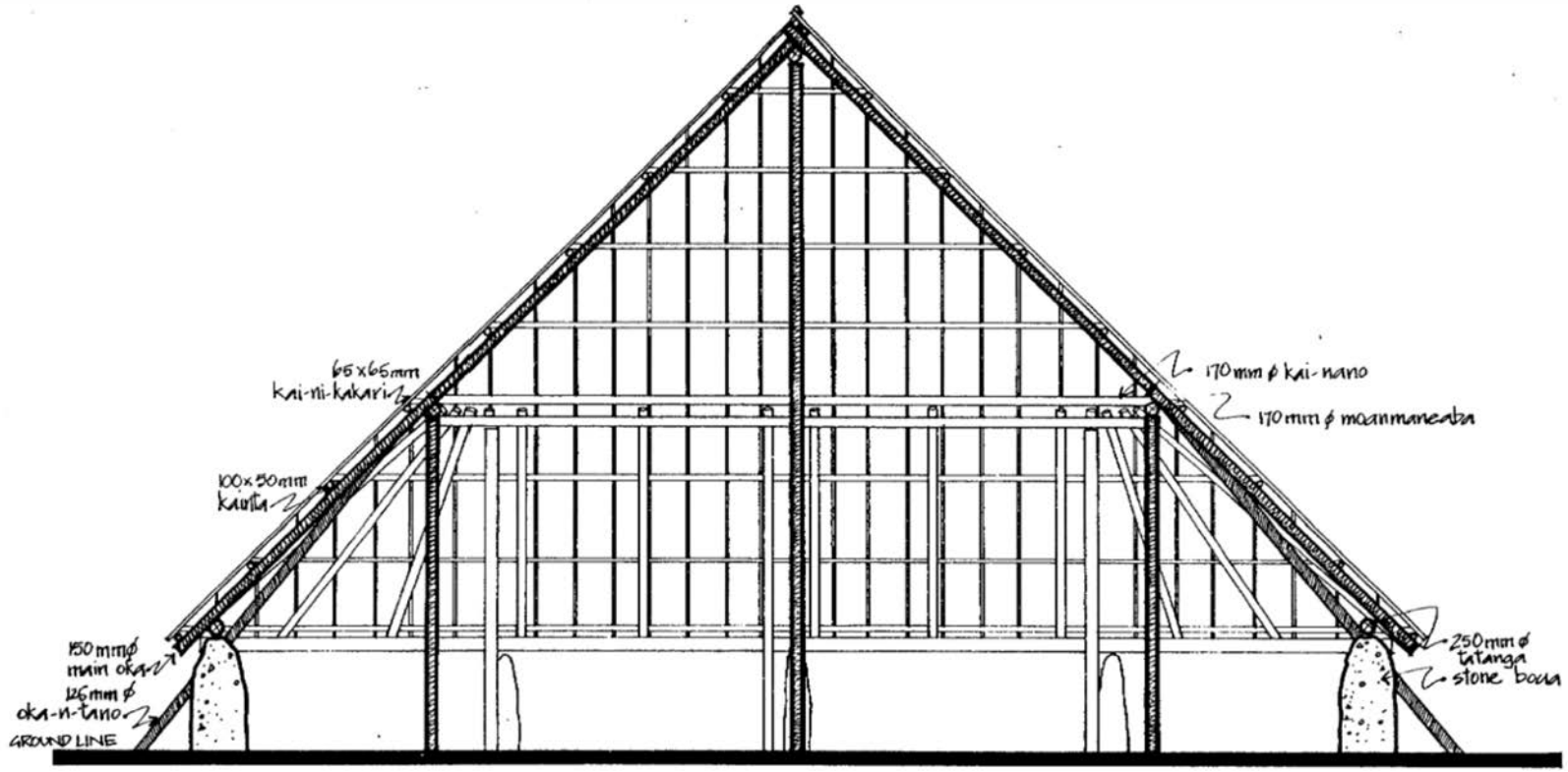
GROUND PLAN
TE RARANIMATANG MANEABA, BUARIKI, ONOTOA
SCALE 1:200

FIGURE 6



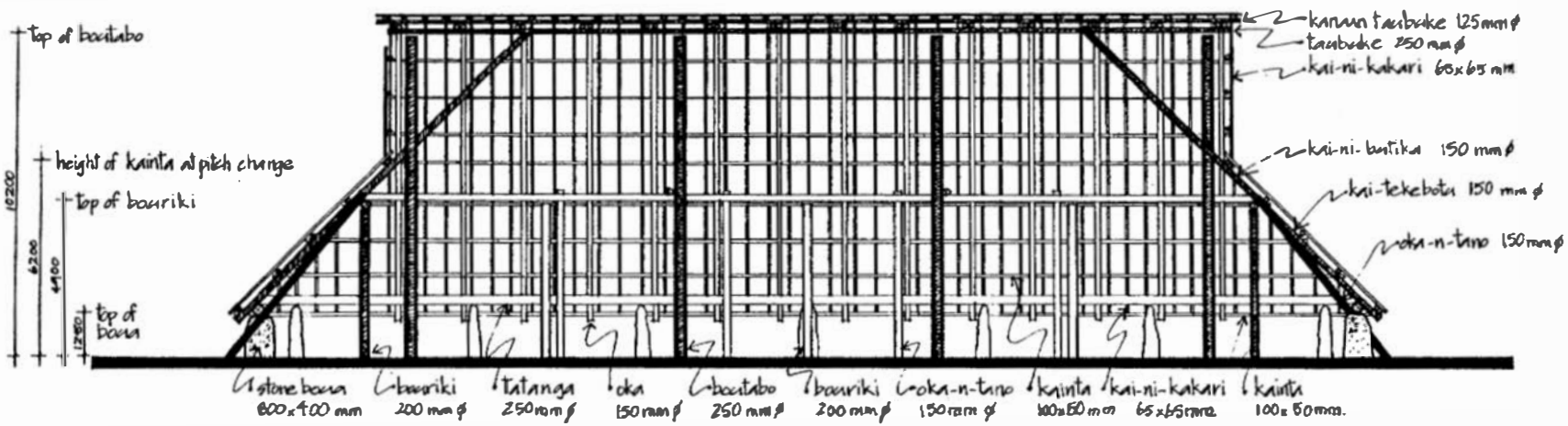
ROOF PLAN
TE RARANIMATANG MANEABA, BUARIKI, ONOTOA
SCALE 1:200

FIGURE 7



SECTION BB'
TE RARANIMATANG MANEABA, BUARIKI, ONOTOA
SCALE 1:100

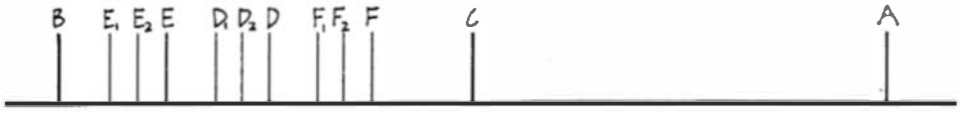
FIGURE 8



SECTION AA'
TE RARANIMATANG MANEABA, BUARIKI, ONOTOA
SCALE 1:200

FIGURE 9

of BE, frond E_2 at the midpoint of E_1E. Fronds D_1, D_2, F_1, and F_2 were positioned similarly.



REFERENCE STANDARD FOR MANEABA CONSTRUCTION

FIGURE 10

From these points could be calculated the lengths of the tatanga and the tatanga-n-rama in accordance with the various maneaba styles. It was only necessary, therefore, to position those reference points which applied to the maneaba under construction. Tabled below are the maneaba styles and their proportions. See figure 11.

Style	Tatanga	Tatanga-n-rama
TABIANG-Tabiang	AB + BE_1	AE_1
TABIANG-Tabontebike	AB + BE_2	AE_2
TABIANG-Maungatabu	AB + BE	AE
MAUNGATABU-Tabiang	AB + BD_1	AD_1
MAUNGATABU-Tabontebike	AB + BD_2	AD_2
MAUNGATABU-Maungatabu	AB + BD	AD
TABONTEBIKE-Tabiang	AB + BF_1	AF_1
TABONTEBIKE-Tabontebike	AB + BF_2	AF_2
TABONTEBIKE-Maungatabu	AB + BF	AF

FIGURE 11

The first timber to be cut was the eastern roof plate, the tatanga-ni-mainiku. Strictly according to custom this eastern tatanga was to be cut prior to the clearing of the marae.[4] After this, and supervised by the master-

builder, the community was involved in preparing all the raw materials required for the erection of the building, a process which could take six to nine months to complete. With the tatanga-ni-mainiku cut, the ground plan was laid out according to the designated proportions, and so that the centre of the tatanga, when positioned, would be directly in line with frond C of the reference standard.

The first elements of the maneaba to be erected were the heavy stone pillars, te boua, which supported the roof. These were cut in huge wedges from the beachrock along the western shoreline using only a giant clamshell adze as a cutting tool. Timber crowbars were used to prise each stone from its bed. Boua varied in height above ground according to the maneaba style, as follows:

Tabiang maneaba: from just below the hipbone to the waist.
Tabontebike maneaba: from the waist to the armpit.
Maungatabu maneaba: from the armpit to the base of the neck.

Their exact height within these limits depended upon the sub-type under construction. Cross-sectional dimensions remained constant at approximately 800mm x 400mm, the longer dimension running toward the centre of the maneaba.

A hole was dug and each boua positioned one at a time and in a strict order (discussed below), following which the tatanga-ni-mainiku and the tatanga-ni-maeo were set in position. Each boua was shaped to receive the tatanga evenly on its apex and no lashed joint was required. For the larger maneaba (up to 35 metres in length) it was necessary to scarf joint two coconut timbers to achieve the tatanga length required. See figure 12.

With the tatanga in position, scaffolding was required for the erection of the superstructure. Tall pandanus

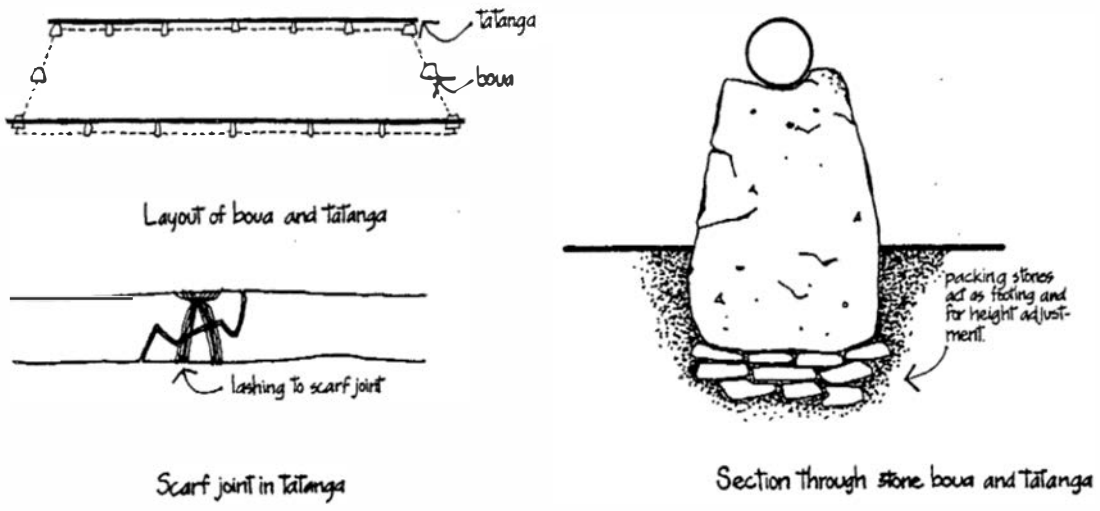


FIGURE 12

trees were cut, their leaves trimmed but otherwise left intact. They were spaced at metre centres in two parallel lines and at slightly less than a metre either side of the central axis of the maneaba. See figure 13.

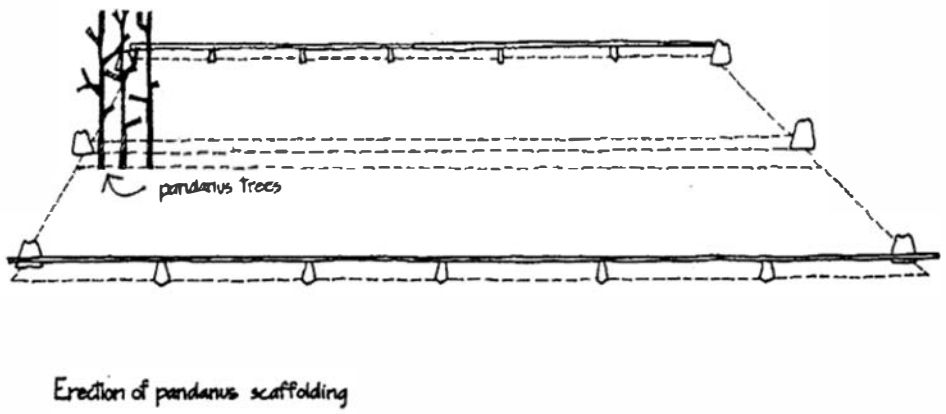
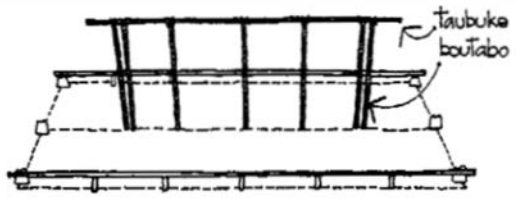


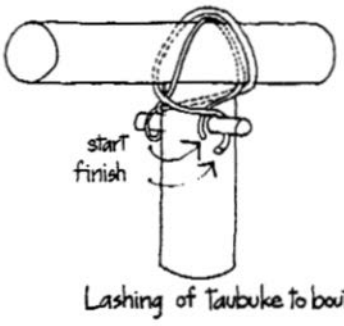
FIGURE 13

The central line of columns were known as boutabo. The first to be sunk in position were the two end boutabo. They were positioned exactly vertically and at a height to take the ridge plate (te taubuke) at its predetermined elevation according to the maneaba style. The taubuke could then be raised into position, first over the tatanga-ni-mainiku up to the men on the scaffold and finally atop the boutabo where it was lashed. For maneaba so large that the taubuki could not be fashioned from a single length of coconut timber, the central boutabo were also positioned at this stage. See figures 14 and 15.



Erection of boutabo and taubuki

FIGURE 14



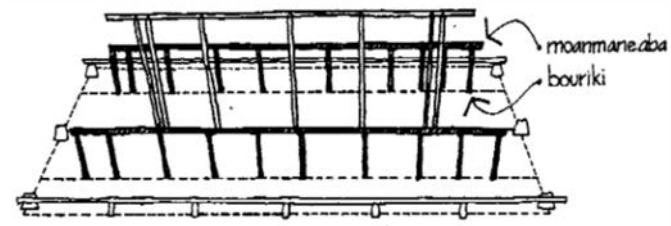
Lashing of Taubuke to boutabo

FIGURE 15

The lashings used throughout the maneaba were not random but carefully specified for each joint within the structure. Many of the knots used were highly complex and difficult to tie, and a large part of the builder's skill lay in his knowledge of this aspect of the construction process. Though in some instances there was a choice of two or three appropriate knots for a particular joint, for example where purlin met batten, it was important that once a knot had been selected it was used exclusively throughout the maneaba for that particular junction.

With the taubuke in position atop the boutabo, strings were run from the apex to the boua along the eastern and western sides, and the verticality of the boutabo adjusted so that the distances were exactly equal. That achieved, the taubuke was then pushed toward the west to a distance of one hand's width so that it overhung the western half of the maneaba.

The larger maneaba had two additional rows of supporting columns, known as bouriki, taking secondary roof plates (moanmaneaba) which helped to support the rafters at approximately midspan. See figure 16.



Erection of bouriki and secondary roof plate

FIGURE 16

The plan geometry of the boutabo and the bouriki was in the hands of the master-builder, each of whom possessed his own version of the basic masterplan. See figures 2 - 9. Generally the boutabo would provide four to five support points for the taubuke, and the bouriki about twice that number. Occasionally boutabo were used in pairs and variations of the end bouriki corner detail were common. See also figure 16.

The longitudinal roof plate atop the bouriki was called the moanmaneaba (first maneaba) and the lateral plate, the moanmaneaba-n-tabo. An alternative terminology for

the tatanga was the kauauanmaneaba (second maneaba), if referred to in this context. The two moanmaneaba were positioned as was the taubuke; the eastern moanmaneaba first, by raising it over the tatanga and into place, levelling and aligning it, followed by the western moanmaneaba.

The structure was now ready to take the oka (rafters), which in the larger buildings were laid in two sections, split at the moanmaneaba. The lower rafter segment, the oka-n-tano (earth-rafter), was the first to be laid. It was cut from pandanus timber, with its lower end slightly curved so that it rested on the ground according to the maneaba geometry. See page 279 for the geometry of the maneaba. The number of oka to be used was again up to the master-builder, with the proviso that the number along a single side had always to be odd. Their spacing was calculated using the thatch measurement, te inaki, as a guide. Each oka was to be separated from the next by three kai-ni-kakari (battens). See Figure 17 .

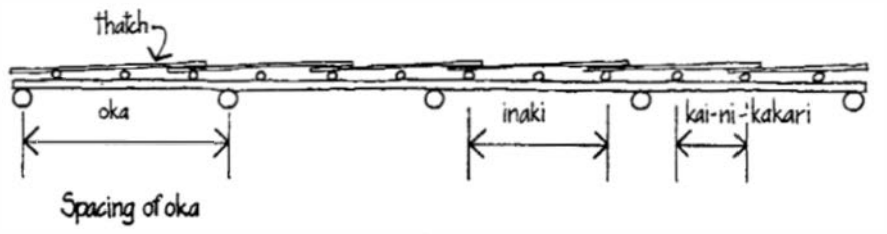
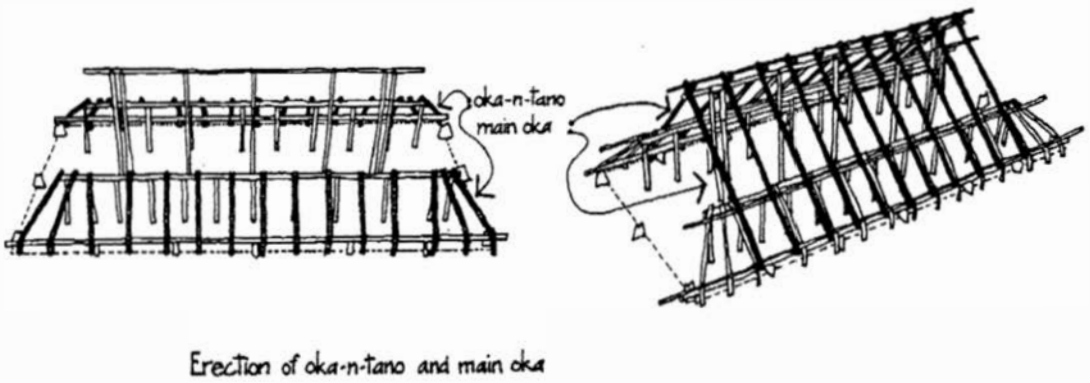


FIGURE 17

By varying the inaki length, the spacing of the oka could thus be adjusted to suit the maneaba length required. On a large maneaba the oka spacing would normally measure about three metres.

With the oka-n-tano in place, the main oka (of coconut

timber) were positioned and lashed between the moanmaneaba and the taubuke. See figure 18 .



Erection of oka-n-tano and main oka

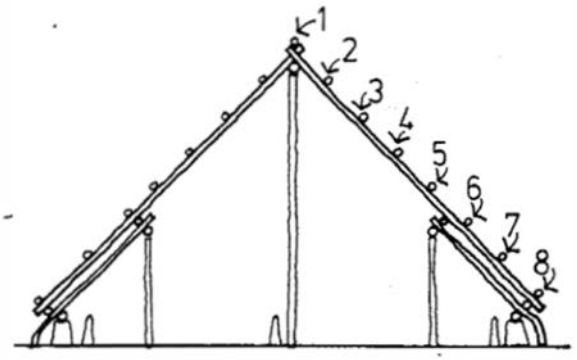
FIGURE 18

For a Tabontebike maneaba, the eastern oka were lashed to the south of the western oka where they met above the taubuke, the placement being known as angamaing (left-handed). For a Maungatabu maneaba the opposite, angatai, was used. The oka could lie adjacent to one another or be spaced apart some 250mm as a sub-type variation, though which sub-type could not be definitely ascertained. A further variation was for the eastern oka to be inserted through the western oka, turned, and locked into position. See figure 19 .

CONNECTION OF OKA OVER TAUBUKE

FIGURE 19

With the oka secured, the kainga (purlins) were lashed horizontally, beginning at the level of the tatanga. Normally five to seven would be lashed between the tatanga and the taubuke, with two additional kainta at either extremity of the oka. See figure 20.



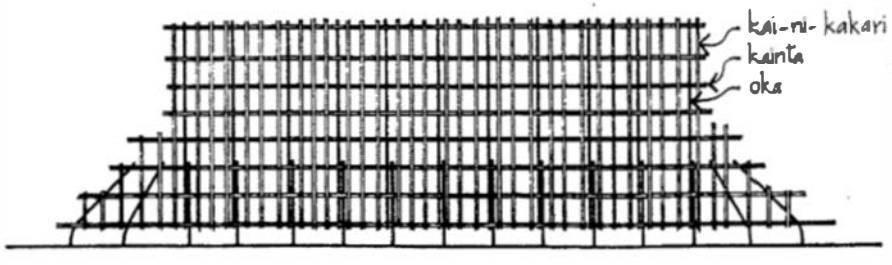
ERECTION OF KAINTA

1 kanaan taubuke
2 kai-ni-kamaraki
3 ten toua
4 rawerawe
5 nanorake
6 te kai-ni-maraki
7 te kai-ni-karanga
8 te kai-n-taobatu

FIGURE 20

The kainta was the first of the maneaba timbers to require substantial working of the coconut log before erection. For all members erected prior to the kainta, the coconut logs were simply stripped of their bark and seasoned. For the kainta, large logs were split and shaped down into approximately 200 x 100mm sections.

At this stage the structure was ready to take the kai-ni-kakari (thatch battens), three between each oka. See figure 21.



ERECTION OF KAI-NI-KAKARI

FIGURE 21

Though the northern and southern gable ends of the maneaba were still incomplete, the thatching of the eastern and western faces was attached at this stage, followed by the kabaraki (ridge capping), which was secured to the kai-ni-ririka. See figure 22.

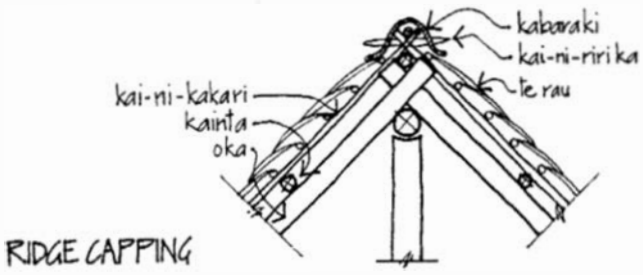


FIGURE 22

The lateral stability of the larger maneaba could be increased by the addition of a number of lateral braces which effectively transformed the rafters into a triangulated truss. See figure 23.

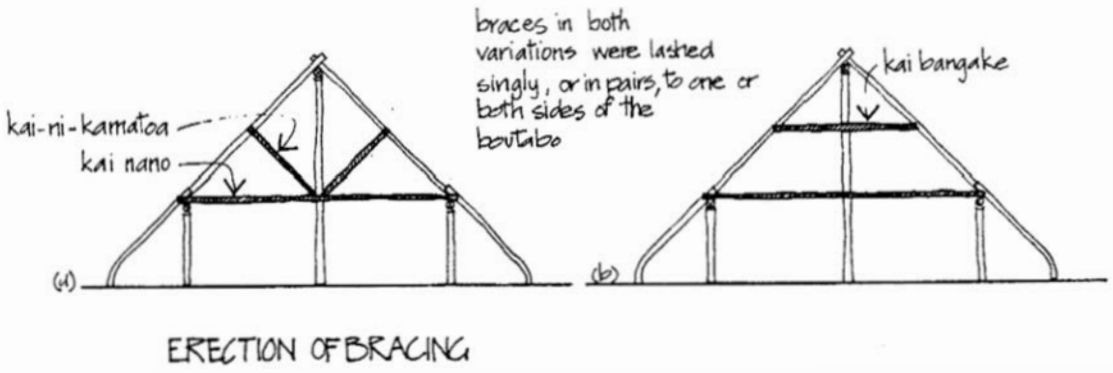
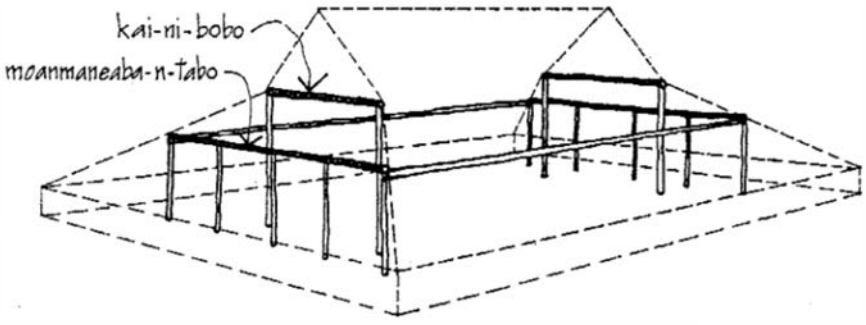


FIGURE 23

Where these were used, they were positioned immediately after the kainta had been secured.

The construction of the gables was begun at the northern end, the southern gable being the last element of the maneaba to be completed. Three boua were shaped to size and positioned, working from east to west so that the tatanga-n-rama rested upon the longitudinal tatanga. The tatanga were lashed where they crossed, with an elaborate knot called te bautim. See Appendix 3.

Two further lateral timbers were required to take the oka of the gable ends. The first of these (the moanmaneaba-n-tabo), was the lateral extension of the moanmaneaba and spanned across them, supported upon central bouriki. The second (the kai-ni-bobo), whose length was in proportion to the moanmaneaba-n-tabo as the moanmaneaba-n-tabo to the tatanga-n-tabo, was supported on two additional bouriki. See figure 24.



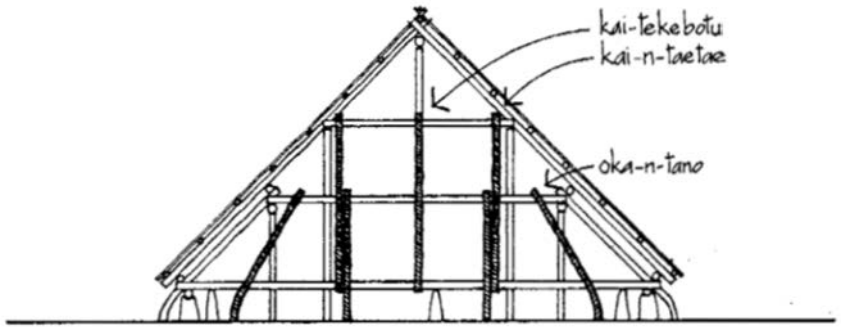
ERECTION OF MOANMANEABA-N-TABO and KAI-NI-BOBO

FIGURE 24

It was at the kai-ni-bobo that the pitch of the gable turned up to nearly vertical. The rafter arrangement by which this was achieved apparently varied greatly according to both the style of maneaba and the constructional methods of the master-builder concerned. Though the stylistic alternatives could not be ascertained, two variations within

the Tabontebike style are evidenced by the Onotoan examples detailed at the beginning of this section. See figures 2 - 9.

The vertical oka retained the nomenclature of oka. The angled oka, of which there were customarily five, and which spanned down to the tatanga-n-tabo, were called kai-n-taetae, with the exception of the central oka called the kai-tekebotu, a linguistic variation of the former. The pandanus extensions of the oka retained the title of oka-n-tano. See figure 25.



ERECTION OF OKA TO GABLE ENDS

FIGURE 25

The kainta on the gables were at the same centres as, and were lashed upon, the longitudinal kainta with the exception of the kai-n-kaukau, the kainta closest to the kai-ni-bobo. This was positioned the length of a man's head from back to front above the kai-ni-bobo and therefore did not necessarily meet its equivalent kainta on the longitudinal sides. Short bridging kainta, called kana-n- (food-of-) te-kai-ni-kaukau, were used to make the required junction. The kai-ni-kakari were lashed to the kainta as they were to the longitudinal sides. See figure 26.

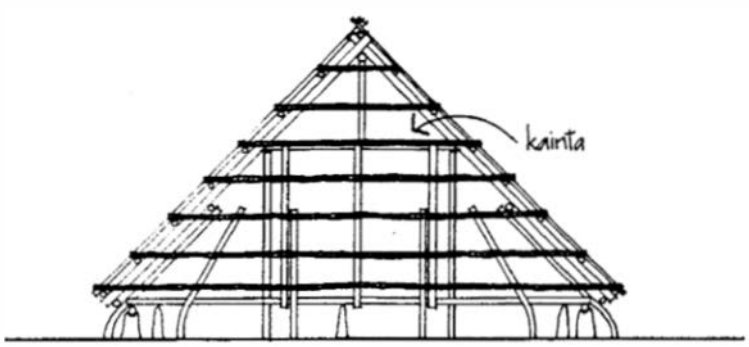


FIGURE 26

To span the corners, additional oka were positioned between the moanmaneaba and the kauouanmaneaba, again the number depending upon the particular master-builder. The arrangement from the Buariki maneaba, Onotoa, is given below. A light timber (100mm x 50mm), the kai-ni-mim, spanned the corner hip. See figure 27 .

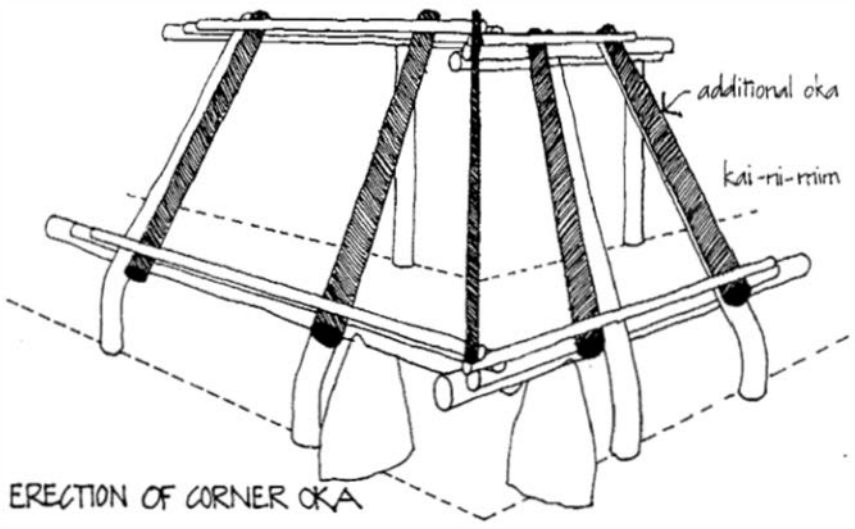


FIGURE 27

The thatching of the gables was then attached, leaving a gap up each side and at the apex. The southern gable was constructed identically. See figure 28 .

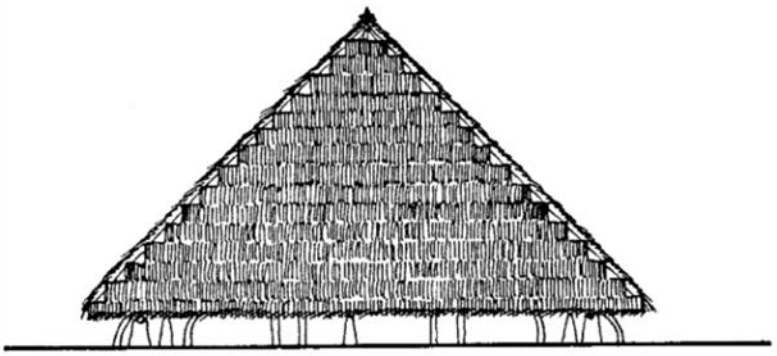


FIGURE 28

8.3 SIGNIFICANCE OF THE MANEABA AS A STRUCTURAL FORM

8.3.1 Mythological Significance

It has already been suggested that the maneaba existed as a model from which the bata was derived; it was in the maneaba that the mythological connotations of the Gilbertese architecture were at their fullest.

(a) Tabakea and Bakoa

As with the bata, the eastern half of the maneaba was allied with the deity Tabakea and the western half with Te Bakoa, the opposition of the two in the form land/sea expressing the triumph of land over sea and, consequently, that of the land-based human civilization over the pre-human under-sea kingdom.

Within the maneaba structure, this opposition took on a further overlay of meaning, expressing the domination of the original Gilbertese inhabitants by the invading Samoan clans. In Tematawarebwe's initial allocation of boti in the Tabontebike maneaba on Beru, it was seen that Bakoa was allied with one of the conquered clans, and a similar situation occurred in the Tokamomoua maneaba at Tanaeang on Onotoa. On the other hand, it is learnt from the Nui creation myth that the god Tabakea was a minor god of Auriaria.[5] Furthermore, Tabakea is associated with the turtle and the alligator, both animals being capable of ascending from their sea abode to inhabit the land.[6] As the land inhabitants were believed to have triumphed over the under-sea kingdom, so it may have been that Tabakea was used to express the dominance of the Auriaria clans over the Bakoa-allied inhabitants whom they defeated upon their return from Samoa.

Whether or not these speculations on the origins of the opposition are correct, the Gilbertese in fact used the east/west, Tabakea/Bakoa opposition to express the dominance of the invaders, and, as the conquered Bakoans were believed to be powerful sorcerers, went to considerable lengths, via the medium of the maneaba structure, to counteract their evil influences:

1. All timbers for the maneaba when cut had to fall to the north, east, or south. If they fell to the west, Bakoa's side, they could not be used.

2. The eastern tatanga was shortened by a hand's width so that it was lighter than the western tatanga which sat upon the boua of Bakoa. The effect of this was to 'tautauna Bakoa' (bury Bakoa) and hence to stifle his influence.

3. When the central boutabu had been carefully aligned vertically, their uppermost ends were moved to a

hand's width distance to the west in order that the taubuki should overhang Bakoa.

4. The kai-n-ta when lashed were positioned above their predetermined position on the eastern side and below on the western side, again to tautauna Bakoa.

5. The number of inaki on the west side was always to be one less than on the east.

6. Te inai (coconut frond mats) which covered the maneaba floor were laid with their eastern side overlapping the western side of the adjacent mats.

7. Before the completion feast (Te Koro Maneaba) was conducted, the thatch on all sides of the maneaba was trimmed, with the exception of a portion of thatch above the boua Bakoa which was left untrimmed. This was to prevent his influence from destroying the effectiveness of the ritual feast. Upon completion of Te Koro Maneaba, the Bakoa thatch was trimmed and all the parings carefully burned.

(b) Stone Boua

In addition to the boua Bakoa and Tabakea, all the remaining boua were named after, and thought to be the embodiment of, a number of other Gilbertese deities. The deities related to particular boua varied from island to island and from one maneaba style to another. Common to the Tabontebike maneaba was the ascription to the central boua on the eastern side of the title Taai (sun), and to the central western boua the title Namakaina (moon). Within this type of maneaba also, the north-west corner boua was commonly the boua of Ngkoangkoa (the-first-created) and the south-east boua that of Nei Tituaabine.[7] All other stone boua

in the maneaba were named according to the head deity of the boti within whose boundaries they were located. They were accordingly treated with great reverence by the members of those boti, and the repeated occurrence of the larger and more significant boti adjacent to these boua may well be explained in terms of the prestige associated with the existence of a boua within a boti territory.

(c) End Battens

The battens, also found in bata construction, have been previously discussed.[8]

(d) Te Kai-ni-mim

This timber, to be found in the Rara-ni-matang maneaba at Buariki, Onotoa, takes its name from Nei Tituaabine who when urinating in her south-eastern corner of the maneaba was said to have adopted an angle of repose similar to the angle at which this timber was positioned. Though a trivial example, it is indicative of the manner by which mythological references to the physical environment both kept the deities and their exploits before the Gilbertese and also served to imbue certain elements of the physical environment with properties of a sacred nature.

8.3.2 Magical Significance

Of great importance in the construction of such a sacred tabernacle as the maneaba were the various physical adjustments made to the structure, the rituals, and the incantations which accompanied almost every stage of the process. They were designed on the one hand to safeguard and promote the well-being of the maneaba builders and their families, particularly the master-builder, and on the other to promote the well-being and good fortune of the maneaba community at large.

The measures just described which were taken to counteract the evil influence of Bakoa exemplify the precautions taken to protect the entire community. A number of further examples are summarised below.[9]

1. For each timber which was cut, the following tabunea (incantation) was recited to protect the builders:

Ai ban angi tiba (sic) ai ti korea bouan maneabaia,
Taburimai, ma Auriaria, Nei Tewenei, Riiki ma Nei Tituaabine
Ai e.....
E toki tera? E toki te mate.
E toki tera? E toki te bakarere.
E toki tera? E toki te kai-n-anti.
E toki, E toki.....

My many words slip (?) as we cut the posts of their maneaba,
Taburimai, and Auriaria, Nei Tewenei, Riiki and Nei Tituaabine
Ai e.....
What is stopped? Death is stopped.
What is stopped? The arrow is stopped.
What is stopped: The mysterious pain is stopped.
It stops, it stops.....

2. When the first oka was lashed into position, the master-builder tied three knots in the unused section of the cord before it was cut, this for his personal protection.

3. No oka was to be placed directly over a stone boua but always a little to one side; placement over a boua would bring misfortune to the community.

4. All oka were lashed slightly to the north of their determined positions along the tatanga with the

exception of those on the north-west corner which were lashed exactly in position, again to ensure the good fortune of the builder.

5. Some variation in the type of lashing used to joint particular members was permissible, but once a lashing style was chosen all subsequent joints of those members were to be lashed similarly. Not to have done so would have brought ill fortune to the community at large.

6. When the eastern and western sides of the maneaba had been thatched, a ritual known as the 'placing of the clam-shell' was conducted by the master-builder and his family. The ritual was designed to protect both the master-builder and the entire maneaba community.

7. Maude documents five feasts (accompanied by appropriate tabunea) which were held during the construction of a maneaba: [10]

(i) when the dimension markers had been laid out
(ii) when the wa-n-anti (scaffolding) had been erected
(iii) when the ridge-capping had been laid
(iv) when the inai (floor mats) had been laid
(v) when the eaves had been cut, Te Koro Maneaba.

The number of feasts apparently varied from island to island, the first two sometimes being omitted as insignificant, and the latter two sometimes combined.

8. Further similar examples are given by Maude, including detailed tabunea, but are omitted here for the sake of brevity. [11]

8.3.3 Social Significance

Certain aspects of the maneaba structure, though magical in nature, had a social significance above and beyond their ability to influence the day-to-day fortunes of members of the community.

The first example concerns the placing of the end oka-n-tabo upon the moanmaneaba-n-tabo, it being held that should the oka protrude above their horizontal support, there would be continual fighting and argument within the maneaba. The prohibition on the protrusion of the oka was thus an unequivocal indication of the type of behaviour permitted within the maneaba, and, indirectly, within the community at large. As a sacred hall-of-ancestors and house of debate, the maneaba was a place for seemly discussion and co-operation between the various boti represented, but not a place for fighting and argument.

The second example concerns the construction of the northern and southern rama (gables). Should these gables not have been constructed identically, of equal breadth and height, it was believed that the occupants of that half of the maneaba constructed with the larger rama would always be victorious in 'fighting, games, and contests generally'.[12] It may be that this customary belief should be taken no further than that. However, the practice of making the rama equal in all respects stands in marked contrast to the numerous distortions performed upon the east/west symmetry in an attempt to counteract the malignant influence of Bakoa. When it is considered that the boti who actually possessed seating places on the west side of the maneaba were not necessarily allied with Bakoa, then it may have been that they were seen to be undeservedly disadvantaged by the anti-Bakoa measures. By splitting the maneaba about its east/west axis, a symmetrical division resulted by which all boti could stand in relation to this reference

frame as equal, as indeed social and political custom dictated they should.

Reference to specific historical circumstances often came to be incorporated within the maneaba structure. For example, in the Tokamouea maneaba at Tanaeang on Onotoa, the moanmaneaba-n-tabo is referred to as the Kai-n-Tabanou (the beam-of-skulls). Dating from the time of Akau, the skulls of victims of a legendary battle were placed upon this beam, and this is the derivation of its name. In the same maneaba (though it is no longer there) an axe hung from the centre of the taubuki which was reputed to be the body of Akau himself. Most early maneaba contained similar mementoes in one form or another which served to keep the social history of the various maneaba communities alive and which are indicative of the type of event which the Gilbertese himself deemed historically important.

The most important social signifier however was undoubtedly the proportion or style in which each maneaba itself was built, and the minor constructional variations which it contained. In the first instance, the spread of the three major maneaba styles, Tabontebike, Maungatabu, and Tabiang, stood testimony to the migrations of the associated clan groups throughout the various Gilbert atolls, and thus formed a vital part of the complex genealogical evidence by which all Gilbertese groups and individuals reckoned their ancestry. Minor constructional variations from the basic model strengthened this evidence. In the Tanaeang maneaba, the tatanga-n-tabo lies below the longitudinal tatanga, whereas in the pure Tabontebike style it is placed above. This variation was introduced by Akau, the maneaba builder, who brought the innovation from his original maneaba in Samoa. Evidence of this sort helped to unravel, and, more importantly, legitimize the specific branch within a larger genealogical tree along which ancestorship could be traced back to the Samoan birthplace.

Finally, it should be noted that the maneaba operated, via the physical arrangement of oka, as a signifier of the status differential between male and female in the same manner as previously discussed with reference to the bata.

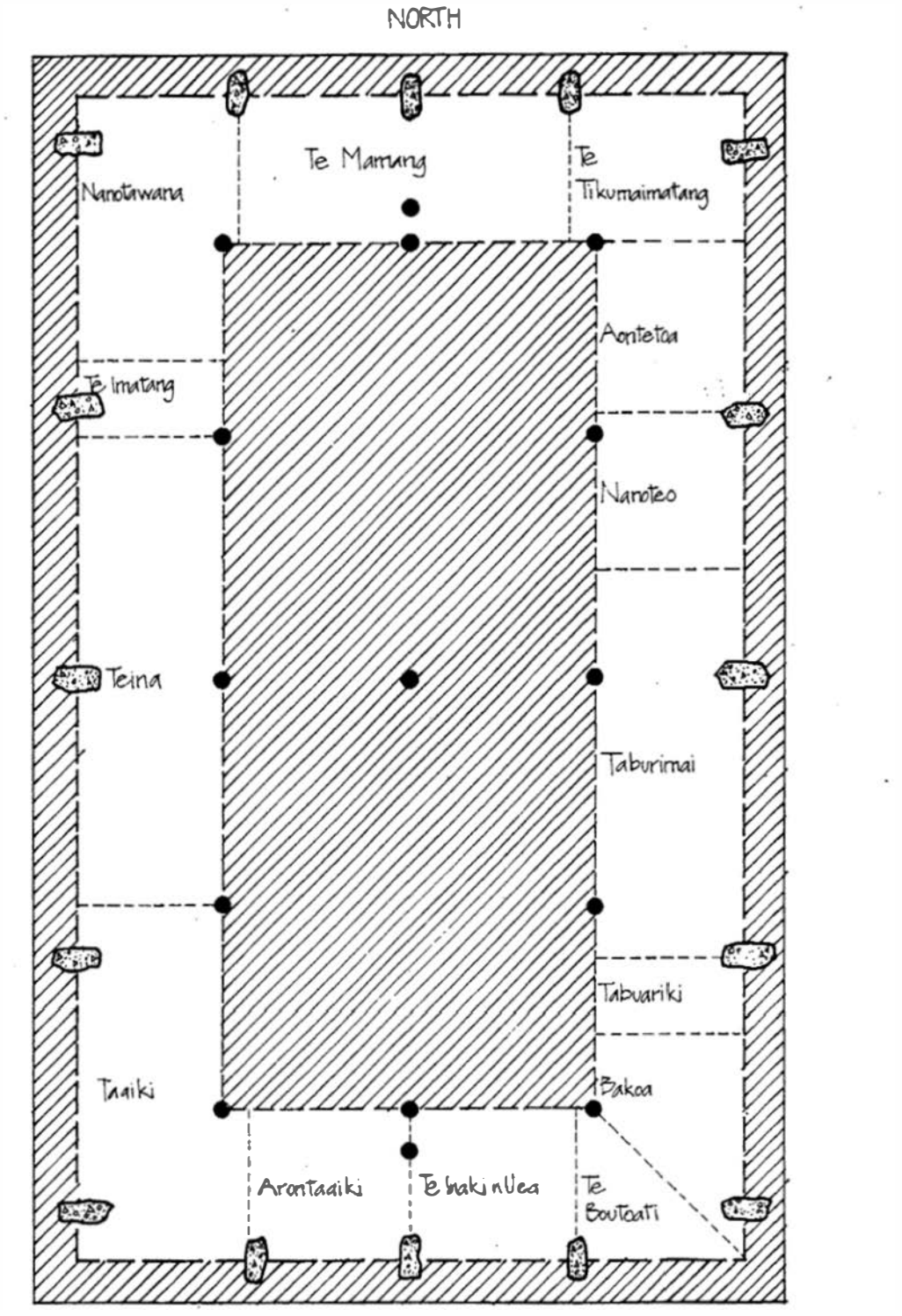
8.4 THE USE OF SPACE WITHIN THE MANEABA

8.4.1 Introduction

The evolution of Gilbertese social structure and the parallel development of the boti/maneaba complex has been discussed at some depth with reference to island settlement pattern. In summary, each residential district was defined by the allegiance of its members to a particular maneaba. The community was divided into a variable number of patrilineal clans, each of which possessed at least one principal residential land tract, the kainga, and possibly a number of subsidiary tracts known as kawa. The majority of individuals resided within their clan kainga or kawa, but a person possessing private lands inherited through a separate social structure, the utu, could choose to live apart from the kainga should he so desire. Each clan within the maneaba community had a specific territorial allocation within the maneaba known as the boti. See figure 29.

8.4.2 Participants

The only section of the maneaba community customarily permitted within the edifice comprised the adult males, both rorobuaka and unimane. But this dictum was relaxed on a number of occasions (outlined below) when women and young adults, both male and female, were permitted within the enclosure. Children were never allowed entry, their behaviour being regarded as unseemly for such a sacred temple.



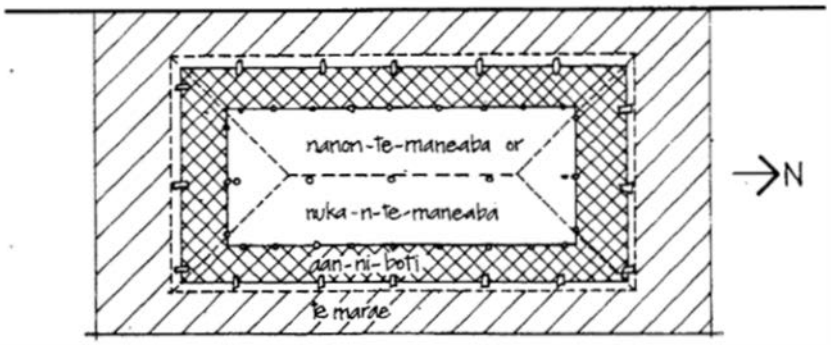
EXISTING BOTI IN THE BUKAN EITEI MANEABA, ONOTOA

FIGURE 29

Each boti was headed by its atu-n-te boti, who was also usually the atu-n-te kainga. As the boti spokesman and final arbiter on boti policy, his status was slightly higher than the remainder of the unimane, though on most occasions he would align himself with the majority opinion prevailing amongst the unimane of his boti, and in this sense was not a leader or chief. The presence of the rorobuaka seems only to have been required as a show of boti strength and unity, and in order that they might acquire detailed knowledge of maneaba custom and procedure.

8.4.3 Elementary Spatial Division

The maneaba complex was divided into three major spatial sub-divisions. The sacred ground, itself regarded as part of the maneaba, which surrounded the maneaba structure and which was covered in a layer of coral atama (gravel) within a low stone border was known as te marae. The internal space of the maneaba was divided in two. The perimeter band between the bouriki and the eaves was known as aan-ni-boti (under-the-boti). It was this space which was divided into the various boti territories. The remaining central space was known alternatively as nanon-te-maneaba (inner-maneaba) or nuka-n-te-maneaba (centre-maneaba). The split between the central maneaba space and the perimeter space, marked by another low stone border, was definite and formal. No seating was ever permitted within the central area and it was used exclusively for ritual performance. See figure 30.



SPATIAL DIVISION OF THE MANEABA

FIGURE 30

8.4.4 Spatial Utilization

The maneaba stood at the heart of Gilbertese culture. Its importance as a cultural object cannot be overemphasised, for the building itself and the social space which it defined was the source of identity for each individual and for the islanders as a whole. The effort and care lavished upon its construction and maintenance and the sanctity with which it was endowed all testify to this fact. It was the home of the principal deities of Gilbertese cosmology, a non-denominational bangota for the maneaba community at large, and there, in the presence of the gods, the principal civil ceremonies, rituals, and debates were conducted. To modern Western man, there is a distinction between law, politics, and religion, but to the pre-contact Gilbertese the secular and spiritual were inextricably bonded. If the maneaba appears as a combination church/house of parliament/law court, to the Gilbertese that was a logical unity. Though the society it served was small in scale and mostly undifferentiated in role, the multi-purpose nature of the maneaba was not to be derived from notions of functional efficiency but from this basic philosophical attitude.

If any distinction was made between the various functions which took place within the maneaba, it was in terms of the standardization of the proceedings. The ceremonial feasts were highly ritualistic, predetermined in both form and content, while the incidental civil debates, through remaining formal in structure, of necessity varied in content as the contingencies of the occasion demanded.

There appear to have been at least two occasions upon which a maneaba ceremonial was invariably held (i) upon completion of the construction of a new maneaba, and thereafter upon completion of its rethatching[13] (the ceremony of Te Koro-Maneaba), and (ii) following the successful

fruitification of the pandanus crop, the ceremonial Tasting-of-the-New-Fruits.

While ritual feasts were a central theme on these occasions, major nikira (ceremonial food distributions) were held independently, free of any seasonal or occasional context, as a reaffirmation and celebration of the social and kindred bonds which united the community. Maude gives a description of the ceremonial food distribution in the Tabontebike maneaba which is more detailed than the versions collected for the Onotoan maneaba. It is therefore reproduced for discussion here, including his accompanying annotations.[14]

"1. The right to decide whether a ceremonial distribution of food should be held is the prerogative of Te Bakoa n Uea, as being descended from the original owners of the island. This clan is next in ceremonial importance to the uea (chief) of the maneaba, Karongoa n Uea, and like him makes his decision known only to his Tia Taetae (speaker), who is Nei Abinoa.

2. Nei Abinoa holds consultation with Te Nguingui, the principal boti among the only other group to be descended from the autochthones of Beru (whereas the people of Te Bakoa were said to have been the owners of the land, those of Te Nguingui were supposed to have been the commoners who did the work). Three important matters are decided between them:
   (i) the date of the ceremony;
   (ii) the number of inai (coconut-leaf mats); and
   (iii) the amount of nikira (food for distribution) to be brought by each clan.

3. Te Nguingui, who is the traditional Herald (or Summoner) of the maneaba then blows his conch shell to announce the news to the people. Rautetia arrives first and enquires why the conch has been blown. Te Nguingui informs him that it is for the Nikira and that each clan is to bring so much of each kind of food.

4. Rautetia is descended from Teweia who built the maneaba and, as the figurative owner, has the right to sit in any boti at will. In his capacity of traditional messenger to the maneaba, he now departs to tell each clan what to bring; after which he goes to Uman Taburimai and informs him of the date

and time when the Uea is requested to come to the ceremony. Uman Taburimai passes this information to the Uea, his agreement being similarly notified through Uman Taburimai, Rautetia and Nei Abinoa to Te Bakoa n Uea.

5. Before the ceremony the people lay the inai mats and then watch out for the arrival of the principal clans, Karongoa n Uea, Te Bakoa n Uea and Te Nguingui. These clans enter the maneaba first, from the north end, and proceed to their respective boti, silence being preserved.

6. The Head of Nei Abinoa arrives last, when all are seated, and standing in his boti calls out:
Nei Abinoa - 'Are all the people present?'
Te Nguingui - 'They are all here.'
Nei Abinoa - 'Is the Nikira ready?'
Te Nguingui - 'Yes, it is ready.'
Nei Avinoa - 'The children are all hungry.'
Each clan thereupon places its nikira in front of its boti.

7. The uea himself (i.e. the head of Karongoa n Uea) then approaches the maneaba and Te Nguingui calls him to enter. He proceeds slowly to the atin toka and seats himself upon it.

8. .....all the Tabontebike boti bring their nikira. Ababou and Bakarawa collect the food from each clan and place it in the middle of the maneaba. Although each clan will have prepared the stated quantity of food, for example, babai, fish, pandanus and coconut puddings of various kinds, only the finest is selected for comparison, the remainder being merely counted...In passing judgement on the size and taste of the various nikira Ababou stands in the centre of the maneaba, disparaging and ridiculing each item as he holds it up for public inspection, and making absurdly inaccurate references to the traditions of the clan concerned, to everybody's intense amusement. Bakarawa stands in his boti and joins in the licensed buffoonery.....

10. Ababou, with Bakarawa assisting, now divides the food into two portions, one for the north of the maneaba (Karongoa) and the other for the south (Te Nguingui). Ababou and Bakarawa have the right of dividing the food because, being strangers, they would otherwise not be entitled to any share in the nikira. Ababou was from the northern Gilberts while Bakarawa was the leader of a migration from Samoa made after the clan ceremonial on Beru had become stabilized.

The largest share of the mange or kaini bai (remnant after division) is taken in payment for his work by Ababou, as divider for Karongoa, and the smaller by Bakarawa, as divider for Te Nguingui. Niki Tengetenge then moves the Karongoa share a few paces to the north, whereupon Te Kaotirama places it three-quarters of the way up the maneaba. A second division is made of the northern share by Te Kaotirama between the eastern clans from Teuribaba to Niku Tengetenge and the western clans from Te Kaotirama to Uman ni Kamauri. Finally the two shares are again divided between the individual clans, also by Te Kaotirama, each clan fetching his portion with the exception of Karongoa n Uea whose portion is brought to him by his food bearer, the boti of Uman Taburimai.

11. Similar moves of the Te Nguingui share are made by Bakarawa and Tengeangea, the latter clan performing the first division between the eastern clans from Karumaetoa to Te Kokona, and the western clans from Te Nguingui to Nei Ati Meang. Tengeangea and Bakarawa make the final sharing into individual clan portions. Ababou has no share but takes the main mange, with smaller mange falling to Te Kaotirama, Tengeangea and Bakarawa.

12. By direction of Karongoa, a share of his portion of the nikira, known as Te Ari, is placed by Ababou and Te Inaki ni Bakoa in front of Te Bakoa n Uea as his present. This is accepted by nei Abinoa on his behalf in a long traditional chant, after which a portion of it is claimed by Niki Tengetenge as being descended from Te Bakoa's sister, Nei Kanueana.

13. Te Karea i aon Inai (The Offering on the Mats). The name given to a food offering placed by Karongoa on the inai laid in front of his boti before the ceremony; Te Nguingui having prepared a similar nikira. After the main distribution Ababou takes this offering and shows it to the people saying 'This is Karongoa's Karea i aon inai'; Bakarawa does the same with Te Nguingui's offering. Ababou and Bakarawa thereupon meet and examine this nikira (the nature of which has been decided beforehand), the number of each item being counted and the quality compared, while the people clap and cry 'o-o-o' at the losers as before. Such portion of the food as has been selected for comparison is then exchanged between Karongoa and Te Nguingui, the rest of their offering being retained for their own consumption.

14. Before the nikira is consumed a girl from Te Katanrake comes forward and places a necklace of flowers round the neck of the Uea and anoints him with oil. The reason for this privilege is that Te Katanrake was Tanentoa's tinaba (classificatory daughter-in-law) and therefore the correct person according to Gilbertese custom to anoint, garland, and generally minister to his needs. Another girl, this time from Nei Ati Maiaki, then unties the necklace and takes it, together with a portion of the Uea's share of the nikira. The clan of Nei Ati Maiaki is entitled to this privilege owing to their descent from Tenai's daughter-in-law and hence his tinaba. As Tenai's son was illegitimate he had no other share in the food."

Of the New Fruits and the Koro Maneaba ceremonies less detail is known but, according to Maude, in Tabontebike for example, only the Bakoa clans, as the conquered inhabitants, brought food.[15] The nikira required of each of these clans was quite modest and not all boti shared in the distribution of the food, the remaining clans having been given other privileges, for example land or fishing rights.

In addition, major civil debates, decisions on warfare or its settlement, the initiation, marriage, and funeral feasts of important members of the community, legal proceedings, and welcome feasts were all conducted within the confines of the maneaba. Each was subject to formal and detailed rules of procedure, varying only from community to community and island to island. To depart from them or to assume functions which were not his prerogative was to render an individual maraia (accursed), a sentence resulting in death.

The order of debate amongst the boti, the privileges of the various boti, the method of apportioning the nikira, the sequence of entry into the maneaba, were all based upon historical and mythological events and expressed

ritualistically the social history of the community. For example, the order of debate reflected the order of the incorporation of each of the boti into the maneaba, and the privilege of garlanding and anointing the Uea reflected an ancient kindred link. The maneaba, through its internal boti divisions, formed a spatial reference for these ritual procedures. More importantly, the spatial divisions of the maneaba, the ritual food offerings, the dances, the incantations, and the temporal order of the proceedings together formed a complex logical space through which the individual, lacking a detailed knowledge of the genealogical histories of most other members of his community, could identify and enact the formal social relationships existing within that community.

1 H.E. Maude, 'Construction of Maneaba', unpublished manuscript in possession of the author. In the later published: H.E. Maude, *The Gilbertese Maneaba*, Institute of Pacific Studies and the Kiribati Extension Centre of the University of the South Pacific, 1980, the first sub-division, Tauauta is deleted, leaving nine variations.

2 A.F. Grimble, 'The Maneaba and Its Social Divisions' unpublished manuscript in possession of H.E. Maude.

3 *Ibid.*

4 Maude, *The Gilbertese Maneaba*, p.16.

5 See chapter 2, p. 49.

6 Grimble, 'The Migrations of a Pandanus People', p. 20.

7 Where the northwest corner boua was named Ngkoangkoa (the first created), it was practice to lay this boua first, and to commence the various construction phases from this 'first created' corner.

8 See chapter 6, p. 226.

9 All examples with the exception of (5) are taken from Maude, 'Construction of Maneaba', unpublished manuscript in the possession of the author.

10 Maude, 'Construction of Maneaba'.

11 *Ibid.*

12 *Ibid.*

13 Depending upon variations in rainfall, thatch normally became due for replacement every five to seven years.

14 Maude, 'Ceremony of the Distribution of Food at Tabontebike', unpublished manuscript in the possession of the author.

15 *Ibid.*

CONCLUSION TO PART ONE

The discussion of the maneaba brings to a close Part I of this study. In it, an attempt has been made to elucidate those aspects of the traditional architecture which were seen to be (1) a part of, and hence (2) important for an understanding of a number of significant constructs which characterized pre-contact Gilbertese culture.

The period following Samoan invasions has appeared as one where the pattern of relationships between architecture and culture gradually stabilised. This has come about through a reliance on historical data which the Gilbertese, lacking a script, could only hold in oral traditions. Many of these traditions have been lost over the course of this century, and detailed data which might point to pattern variation and adjustment are no longer available. However, a comparison of those data which are still available concerning the immediate post-Samoan generations with accounts of Gilbertese culture during the early European-contact period suggests that little structural change did in fact occur.

Part II, while not attempting a 'complete' historical account, outlines the major influences of European contact and occupation on the pre-contact cultures and examines the impact of these influences upon the relationships established in Part I.

PART TWO chapter 9

SUMMARY OF INITIAL SOURCES OF WESTERN CONTACT

Preceding detailed analysis, a brief account is given of the various sources of Western contact with the Gilberts - principally traders, beachcombers, missionaries, and the British Government.[1]

Sightings of two of the Gilbert Islands, Butaritari and Nikunau, were made during the 17th and 18th centuries, but contact was limited to possibly one occasion and is only vaguely referred to in the legends of that island.

With the founding of the Australian colonies in 1788 came the establishment of the outer passage Australia-China trading route and the 'discovery' of several more of the islands. Over the next 20 years all but three of the 16 islands in the Group had been seen by commercial ships, and occasional visits were made to collect fresh coconuts for sick crewmen. For the Gilbertese, therefore, contact with foreigners was still rare, but it was increasing.

In the 1820's the waters along the equator and particularly around the Gilberts became popular whaling grounds, and by 1825 all the islands had been sighted by American, British, and Australian whalers. It was from these vessels that the first beachcombers arrived at the islands. Though there were only five beachcombers in 1841, their number had increased to 60 in the 1850's. A few joined the native society, marrying and establishing families, but the majority were troublemakers and were significantly responsible for the upsurge of violence which spread through the northern islands particularly during the latter half of the 19th century. On the island of Abemama, for example, the High Chief had all the beachcombers in his territory executed as nuisances and disturbers of the peace.

From as early as the 1830's trading ships had begun calling at the Gilberts to barter tobacco and iron for bêche-de-

mer and turtle shell. In the 1840's, however, the development of a new production technique made coconut oil a marketable raw material, and this prompted a renewal of interest in the Pacific Islands by commercial concerns. The year 1846 saw the first resident traders appearing in the Gilberts, and by 1852 a regular shipping line was established between Butaritari and Australia, some 70 to 80 Europeans being by then resident in the Group.[2]

In 1852 also, the first American missionaries undertook a reconnaissance of the Gilberts, and Hiram Bingham returned in 1857 to establish a mission on Abaing, remaining there until 1880. His influence was restricted to the northern islands, but in 1870 Samoan missionaries from the Ellice Islands to the south began activities on the southern islands of Arorae, Tamana, Beru, and Onotoa.

In 1892, partly for diplomatic reasons and partly at the request of the islanders, the Gilbert and Ellice Islands were declared a protectorate of Great Britian, and became a colony in 1916.

1 This account is an amalgamation of information contained in:
H. E. Maude and I. Leeson, 'The Coconut Oil Trade of the Gilbert Islands', *The Journal of the Polynesian Society*, 74(4), 1965,
and
H. E. Maude and E. Doran Jnr., 'The Precedence of Tarawa Atoll', *Annals of the Association of American Geographers*, 56(2), 1966, pp. 269-289.

2 See Maude and Leeson, *op. cit.*, for an excellent and detailed survey of the trading history of the Gilbert Islands.

chapter 10

ISLAND SETTLEMENT PATTERN UNDER CHANGE

10.1 ISLAND SETTLEMENT PATTERN AND SOCIAL STRUCTURE

10.1.1 Beachcombers

Most information on beachcombers and traders who arrived in the Gilberts during the second half of the 19th century, concerns those who resided on the northern and central islands, but it is assumed that their effect on those aspects of Gilbertese society which are here discussed was the same throughout the Group.

The traders and beachcombers brought with them the knowledge of how to ferment coconut sap, and they brought also firearms and ammunition, which they traded for copra. The combination of liquor and firearms brought violence and disruption to most islands, frequently at the instigation of the Europeans. This led to loss of life, and a general disturbance of the orderly processes of society, and also to major alterations in property holdings throughout the islands. Whilst land, particularly on the southern islands, had always been in demand, its acquisition other than through inheritance was most frequently achieved via the socially sanctioned means of marriage and/or adoption. Land could also be acquired by conquest, but the balance of power between kainga groups and the jurisdiction of the unimane mediated against the widespread use of such means. The introduction of firearms significantly altered this balance of power, and, in combination with the lawlessness promoted by the widespread consumption of coconut toddy, led to many individuals being deprived of their land holdings.

But while the traders and beachcombers, by promoting this sort of disruption, did have an effect on property ownership, their activities had not up to then brought about any significant change in the patterns of settlement. However, with the later arrival of missionaries and governmental agencies, all this changed.

10.1.2 Missionary Influence

Missionaries arriving in the 1860's and 1870's found violence so prevalent in the Gilbertese society that they placed it high on their list of heathen practices to be eliminated as antithetical to the Christian doctrine. In Richard Randell, an Australian trader, the American missionary Hiram Bingham found a useful ally for this task. Randell, who arrived on Butaritari in 1846 and established trading posts as far south as Tabiteuea, was on extremely good terms with the Gilbertese, and, aside from personal sympathy with Bingham's mission, saw in their conversion a chance to increase his trade.

Under the influence of Randell, and themselves weary of the endemic warfare which had plagued their society (a situation exacerbated by the beachcombers), the Gilbertese were more amenable to the new doctrine than they might otherwise have been. In order to reach all sections of the population, sand gravel roads were constructed along the lagoon shoreline of each of the islands - the first major alteration to island settlement pattern directly due to the arrival of the Europeans.

The traditional lateral subdivision of the atolls into clan-based kainga territories had to a large extent promoted inter-village insularity and even, though to a lesser extent, inter-kainga insularity. Movement up and down the island was always conducted with caution under threat of attack from antagonistic neighbours, for any movement outside the kainga necessitated the transgression of another's territory.

Without detailed behavioural evidence, the impact of these changes is difficult to estimate. However, when it is realised that before this time, even on those occasioins when the villagers traditionally assembled as a unit, they

did so within their boti groupings and for the purposes of formal assembly, then it is clear that the new situation would inevitably have brought about a radical departure from traditional social behaviour.

The lagoon-side road passed through the densest settlement on each kainga, and the new social settings of the church and the trade store operated as egalitarian meeting places where clan allegiances played no part. This must have resulted in greatly increased social contact between groups who previously had remained essentially isolated in their day-to-day activities. Even the extra-clan contact maintained by the utu factions did not approach this new degree of interaction in terms of either frequency or extent. Nevertheless, despite the efforts of the traders and the missionaries, all the islands (with the exception of the northern atolls of Makin, Butaritari, Abemama, Kuria, and Aranuka, which had long periods of stable rule under High Chiefs) continued to be plagued by intermittent warfare. And so it was only in times of peace that the whole island population might visit the village in which the trade store and mission were built.

10.1.3 British Government Influence

When it assumed protectorate responsibility in 1892, Great Britain saw as its main tasks the promotion of a stable and lawful society, and the establishment of a sound economic base for community development. The administration left education and social welfare to the missions.

Though the road along the lagoon shoreline of each island aided surveillance of the population, the task of controlling them was made difficult by the scattered nature of the kainga and the fact that mwenga often extended 10 to 15 deep back from the road. As a result the administration enacted regulations to rationalise (from its point of view)

the pattern of settlement. Remote kainga and kawa were dis-established, as were any mwenga living on their buakon-ikai holdings. Further, every mwenga within each maneaba district was to front onto the road. On Onotoa, for example, the villages of Tanaeang, Buariki, Temao, Otoae, Aiaki, and Tabuarorae were compacted. The settlement on the remote northern islet of Te Baki was disbanded and moved to the present site of Te Kawa, where it was amalgamated with the existing northern kainga and kawa of the Tanaeang maneaba.

Most kainga were of such width that it was impossible to site all the mwenga they contained within their road front-ages. Those who could not find a site had therefore to move, usually to land owned elsewhere on the island. But people had no desire to leave their kainga or the utu-based mwenga groups within them, and numerous disputes arose over kainga and utu property rights. To end the disputation, the administration declared all land adjacent to the road government property and it reserved the right to allocate mwenga sites at its discretion. The problems continued, however, because people who had been given rights to a piece of land and had erected a mwenga on it claimed ownership of that land on the basis of ownership of the mwenga which stood there. The administration therefore moved to declare all mwenga to be government property. The speed with which these regulations were enacted and the fact that no Gilbertese individual now owned his mwenga resulted in a proliferation of sub-standard shacks. To prevent this, and in an attempt to improve hygiene generally, the administration laid down specifications as to the build-and siting of mwenga.

This sweeping set of changes had far-reaching effects on the organisation of Gilbertese society, discussion of which in this section will be limited to the fate of the boti/ kainga complex within the context of island settlement pattern.

Traditionally, potential membership of a boti was reckoned patrilineally, but actual membership depended upon an individual's exercising his right to reside within the kainga or kawa of the boti to which he had a claim to membership. Whilst an individual was on occasion permitted entry to a boti other than that of his father, he could not on the other hand maintain membership of his father's boti whilst residing on the kainga or kawa of another boti. Residence within a kainga was thus all-important to boti membership. Furthermore, it was not possible for an individual to reside permanently within a kainga unless that person was also a member of the boti to which the kainga belonged. Thus a man's wife, upon their marriage, left the boti of her father to enter the boti of her spouse; or vice versa, where the husband left his kainga to live on his wife's family's estate. Finally, an individual could only belong to a boti which had a place in the maneaba of the community in which that individual resided. The new settlement pattern thus struck at the roots of the boti/kainga organisation.

Individuals who were once legitimate members of a particular boti and residents on a particular kainga were now scattered along the length of the island. Conversely, within the areas once designated as particular kainga, there now resided individuals with a variety of boti affiliations. The kainga, once ancestral estates in the truest sense and the basis of island settlement pattern, were thus deprived of meaning.

As the functioning of the clan operated primarily at the level of community, and within the kainga themselves, further comment is delayed until discussion reaches that point.

10.1.4 The Government Village

Whilst the administration-instigated changes destroyed the clan estates, they did not in any major sense alter

the division of the atolls into maneaba-centred communities. However, over the course of this century, economic enterprise, government, and the church have combined to add a new element to the island settlement pattern - the government village.

With the declaration of the protectorate and the later annexation of the Group as a colony, the government leased land on each of the islands for use as administrative centres, and to enforce island regulations, an island magistrate, a council of unimane, and a police force were appointed for each island. The first structures erected were thus a courthouse and a jail. In order to come under the protection of the 'flag', trade stores relocated themselves on government-leased land. As the level of communication increased, a post office/radio station, clinic, and hospital were added to the complex. The policy of the government was thus to treat each island as a single administrative unit. Though the unimane of each island traditionally met as a single body to discuss island affairs, such events were rare and meetings were conducted within one of the community maneaba. With the new pressure for island unity stemming from government policy, and supported by the common conversion to Christianity and the corresponding lessening in inter-village tension which that brought, the meetings of the unimane and the island population as a whole became more common. To this end, the island populations collectively built large island maneaba adjacent to the government complexes, using traditional seating allocations, village by village, within them. See figure 1 , page 336. The government village and the adjacent trade store and island maneaba, in the face of decaying traditional formal social organisation, represented and re-inforced a growing awareness of the social unity of the island as a whole. As the buildings and territory were accepted as public places, islanders were free to come and go within their limits as they pleased, and to

fraternise there almost at will - a concept totally foreign to traditional social behaviour.

Over the years this village has continued to grow. In the 1930's the trade stores were discontinued and replaced by co-operative societies owned by the islanders themselves and operating small branches in other villages on each island. With administrative changes, especially since the Second World War, island executive officers, land clerks, police, agricultural officers, nurses, and teachers have been added to the island administrative staff. So that their work may be seen to be impartial, it has been the policy to recruit these staff from islands other than those on which they serve. They also have been accommodated within the government village, giving it a residential component.

The layout of one such village, recorded in 1976 in Buraitan, Onotoa, is given in figure 1. The increasing services provided have thus continued to encourage the notion of the social unity of the island, a process which can be analysed in more detail with Onotoa as an example.

10.1.5 Buraitan, Onotoa

Geographically, Onotoa is divided into three distinct though un-named physical units: a northern islet containing the villages of Te Kawa, Tanaeang, Buariki, Buraitan, Temao; a central islet containing Otoae and Aiaki; and a small southern islet on which Tabuarorae is the only settlement. It is only possible to commute between these various islets on foot at low tide, and then only for a short period of time and with some difficulty.

The government village, Buraitan, was eventually established between the existing villages of Buariki and Temao, after being originally sited at Tanaeang. The island maneaba,

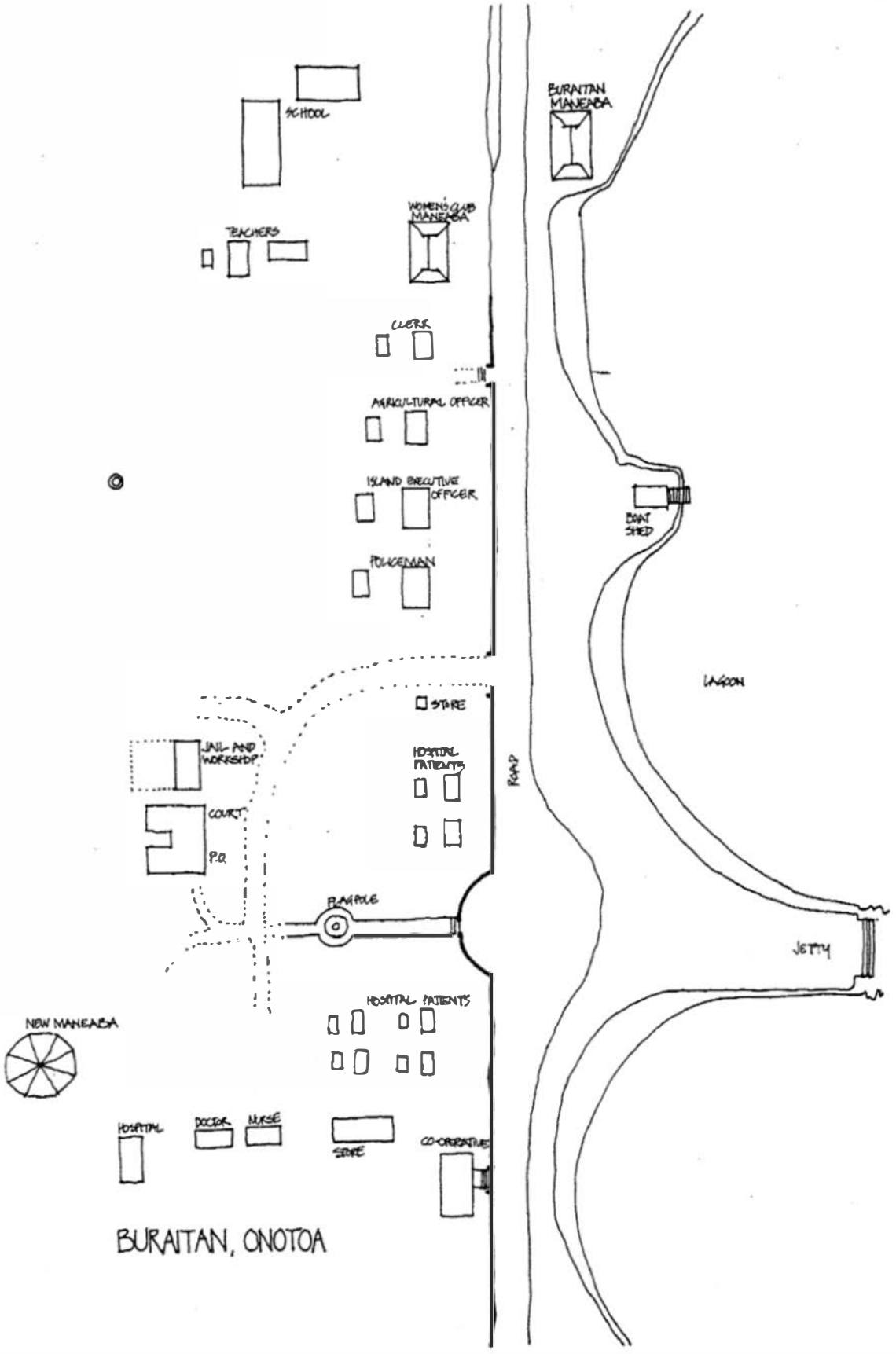

SCHOOL
TEACHERS
WOMENS CLUB MANEABA
CLERK
AGRICULTURAL OFFICER
ISLAND EXECUTIVE OFFICER
POLICEMAN
BURATAN MANEABA
BOAT SHED
LAGOON
STORE
JAIL AND WORKSHOP
HOSPITAL PATIENTS
COURT
P.O.
ROAD
FLAGPOLE
JETTY
HOSPITAL PATIENTS
NEW MANEABA
HOSPITAL
DOCTOR
NURSE
STORE
CO-OPERATIVE
BURAITAN, ONOTOA

FIGURE 1

of traditional construction, and one of the largest in the Group, was replaced by a circular reinforced concrete and aluminium structure in 1976. No date could be ascertained for the construction of the existing post office/court/jail/office complex, though it is post-war. The co-operative store, hospital, school, and women's club maneaba are all of recent construction. Because of the distance and difficulty of traversing the lagoon passages, substantial co-operative branches have been established at Otoae, Aiaki, and Tabuarorae. As the co-operative remains the most patronised public amenity, the population of the northern islet is more socially interactive than are the populations of the southern islets, where each village has its own store. In this respect also it is important to note that the greater proportion of social contact is between the women and the youth of the island population - that is, the reverse of the traditional pattern.

Domestic duties, the responsibility of women and youth, have been extended to the transport of produce to the co-operative, the purchase of domestic provisions, and the posting of mail. With compulsory primary schooling, through which children from different villages are in contact five days a week, it is now the informal socialisation within this section of the population that characterises contemporary outer island social behaviour.

10.1.6 Summary

The southern Gilbert Islands were seen to be traditionally divided into autonomous, self-supporting, maneaba-based communities of 300 - 500 people, with all land privately owned and at a premium. This discouraged any degree of socialisation between communities. The even spread of resources along the island enabled each community to be self-supporting. The scarcity of resources required that all possible land be exploited, and the unsuitability of the soil for agriculture denied the possibility of communal enterprise.

This absence of any over-riding concern for the island as a whole, whether trade, religion, or government-based, thus presented little opportunity for the development of formal or informal social relationships outside of the community itself. Indeed the precariousness of existence in the face of a harsh physical environment was one factor which encouraged the formation and persistence of insular social groups, of a controllable size, which could guarantee the welfare and protection of their members.

In terms of the pattern of island settlement and social organisation, therefore, the changes introduced by the government and the missions maintained the division of the atolls into village units. However, the old necessity for maintaining village unit autonomy has been displaced as a result of various developments: the improvement in the economic welfare of the islander through the introduction of a partly cash economy and through increased efficiency in exploiting agricultural and marine resources; the eradication of major social conflict and warfare; and, finally, the concept of the island population as a political and religious unit, itself subservient to other organisations of an even higher order.

In this way a true island community has developed, through means both formal and informal - formally, through the activities of island politics, public works, church service, women's clubs, schools, scouting groups, sport, and ceremonial entertainment, and informally, through the social interaction permitted and encouraged by the provision of public utilities and space.

10.2 ISLAND SETTLEMENT PATTERN AND RESOURCE EXPLOITATION

Traditional island settlement pattern was seen as fixed, a result of both island geography and the relatively even

spread of resources. It was noted however that the gradual dispersal of utu-inherited land holdings through the processes of marriage, warfare, and legal settlement promoted some migration of the atoll population, though only for periods of months at a time. This migration was normally within the boundaries of the home island, but inter-island migration for the purpose of resource exploitation did also occur.

The general aim of the individual landholder, however, remained the accumulation of resource lands, as close as possible to his home village, for even inter-island migration was at most times both arduous and dangerous. This difficulty resulted in many buakonikai holdings being left untended and unexploited for years at a time.

The intervention of the British government in fact further stabilised the fixity of physical settlement in the islands because those islanders who were living outside kainga and kawa estates on their buakonikai land were forced to reside within the village districts. This on its own could have made access to resource lands difficult but the island road, and the peaceful social relations brought about through government and missionary activity, allowed the individual islander greater freedom to move around his home atoll than ever before. Thus, whilst the physical settlement pattern remained fixed, most islanders now had the opportunity to exploit daily, or for more extended periods of time, their various buakonikai lands up and down the atolls.

Whereas inter-village and inter-island marriages were by no means unknown prior to European contact, they were the exception rather than the rule. But such marriages (and adoptions) became more common as a result of the decreased importance of consolidating land holdings adjacent to the kainga, together with the expansion of the arena of daily social contact. This pattern has continued to

the point where today an individual is as likely to acquire a spouse from another village or island as he/she is to marry a resident of his/her own community.

Of perhaps the greatest significance in the changing pattern of resource exploitation is the general introduction of a cash economy. Without delving too deeply, it is obvious that under the traditional system the Gilbertese mwenga as a group were engaged in winning all their consumer requirements directly from the earth and the ocean. With no barter system, each family made, grew, collected, or caught everything it required. Even the bubuti system operated only to equalise levels of affluence, and was a one-way system within the utu, rather than a system of exchange. No individual or group had exclusive access to a particular resource, and everything which was required was available to all. With the beachcombers and traders came the barter system, but for the Gilbertese his operating currency was copra, which was still derived from his resource lands.

The opportunity for wage-labour and the introduction of a cash economy came with the establishment of coconut plantations in the Line, Christmas, and Fanning Islands, and with the discovery of phosphate at the turn of the century on Nauru and Ocean Islands. Employment opportunities have, over the years, expanded to include government and civil service positions, jobs as seamen on the local or overseas shipping lines, and positions within the churches. The table below gives the breakdown of adult activities on Onotoa during 1973.[1] The figures show only 14.5% of active males and 3.4% of females in paid positions. There are no data for Onotoa, but Geddes found that, of 183 mwenga studies on Tabiteuea, 82 (45%) regularly received money as remittance from relatives.[2] The cash available to each mwenga is still very low and is used mainly to buy kerosene, sugar, tobacco, flour, tea, rice, evaporated milk, and cloth.

For the majority of Gilbertese, employment opportunities have offered the chance of an improved standard of living, but have still not significantly changed basic economic pursuits. For the few there is however the opportunity of release from the traditional dependency upon land holdings for subsistence. This would be the more so were it not for the existence of the two traditional institutions of shame (mama) and the formal request (bubuti). Rather than making a show of wealth, the Gilbertese is expected to make every effort to appear humble in front of his fellows. Similarly, the bubuti custom inhibits the possibility of capital accumulation. Even personal advancement is subject to this attitude, and it is not uncommon for individuals who have completed, for example, medical training courses to be forced to return to their home islands to fish and farm for their relatives. Strong as these customs might be, there are moves to break away from them, and it would be expected that, with respect to settlement patterns, individuals will be increasingly freed from the traditional residence/landholding interdependence. Certainly Geddes, when interviewing Tabiteuean schoolchildren, found that the majority of them held aspirations to seek paid employment.[3]

10.3 ISLAND SETTLEMENT PATTERN AND SPIRITUAL PRACTICE UNDER CHANGE

It was noted in the preliminary chapter that, though spiritual practice was primarily the concern of the clan and the individual, certain spatial associations of spiritual practices related to the island as a whole. Notably these were the sanctity of the eastern beach, and the land/sea opposition. Additionally, each island was possessed of a number of landmarks of social import through their relationship to the legendary Gilbertese ancestors.

For a successful and complete conversion of the Gilbertese to Christianity, both the Roman Catholic and the Protestant missionaries deemed necessary a zealous outlawing of all spiritual activities traditionally engaged in by the islanders. By riding over old taboos, by showing themselves immune to ritual and magical sorcery, by violating sacred monuments and sites, and by encouraging islanders to do the same, the missionaries effectively demonstrated the powerlessness of traditional spiritual beliefs and practices, and opened the way for the almost total conversion of the Gilbertese to Christianity. All those converts who continued to perform any of the traditional spiritual practices, even those rituals closely associated with craft techniques such as house or canoe building, were threatened with excommunication.

The type of Christianity introduced was the same fundamentalism as was introduced throughout those cultures which came under the missionary drive of the 19th century.

As such, its practice concentrated firmly on action rather than belief. Theological enquiry and debate was left in abeyance until the daily pursuit of a Christian lifestyle was firmly entrenched. That lifestyle comprised obedience to the commandments, the observance of the sabbath,

the payment of tithe, and the cessation of all pagan practices.

The almost complete conversion of the Gilbertese (1931: 52% Protestant, 42% Roman Catholic, 6% pagan) and the fundamentalist nature of the new doctrine radically altered the day-to-day life of the islanders, and, on the surface at least, traditional spiritual practice and belief were abandoned by all but the unconverted.

The majority of the strict controls established by the missions and the government remained in force until the Second World War. After the war, many were removed, including the imposition of curfews and the regulations requiring all islanders to reside within the villages. The period since has seen something of a revival of elements of the island culture, and, promoted by a sympathetic administration and also by non-governmental bodies, an increasing awareness of their traditions on the part of the Gilbertese. Insufficient data were collected for a detailed assessment of this trend, but a number of points can be made from the Onotoan experience.

Amongst both educated and uneducated alike, many of the pre-Christian spiritual beliefs and practices have been preserved. As knowledge and experience of Western civilization have increased, and the awesomeness of that civilisation diminished by an awareness of its imperfections, a type of dualistic attitude has been adopted by the pragmatic Gilbertese. Whilst maintaining a firm belief in the 'rightness' of Gilbertese culture, elements of Western culture have been incorporated as being either more satisfactory approaches to disadvantageous aspects of their traditional culture, or as worthwhile additions in their own right to an increasingly complex and no longer insular lifestyle.

Though frequently incompatible from a rational viewpoint, traditional spiritual beliefs and practices stand side by side with Christian doctrine. Occasionally they are strangely fused - some Onotoans regard the Virgin Mary and Nei Tituaabine as the one being, Heaven and Matang as the one place. But commonly the two belief systems exist together but apart, one or the other appropriate to the occasion as it presents itself. Thus, whilst Christianity and Western contact have to a great extent extricated the spiritual from the practicalities and realities of everyday living, and removed from the mind of the Gilbertese the anxiety of existence within a world controlled by spirits and evil forces, notions such as the ritualistic and spiritual connotations of the eastern shore of the atolls remain on the outer islands at least. Though rarely used for ritualistic purposes, the beach retains its mystic and supernatural presence to the extent that an islander would still not, for example, consider erecting a residence there.

Likewise, the survival of the legends concerning Nareau and the creating of the Gilbert Islands has sustained the notion of the land/sea opposition as a philosophic axiom, used particularly by the unimane during the ritualistic celebrations of birth, initiation, and marriage.

1 *Government Census*, Gilbert and Ellice Islands Colony, Tarawa, 1973.

2 W. H. Geddes, *North Tabiteuea Report*, Department of Geography, Victoria University of Wellington, 1975.

3 *Ibid.*

chapter 11

COMMUNITY SETTLEMENT PATTERN UNDER CHANGE

11.1 INTRODUCTION

The traditional Gilbertese community, which centred around a village maneaba, was seen to be composed of a number of kainga and kawa which operated as residential sites, bush lands (buakonikai), and the maneaba itself. The community was two-tiered. On a day-to-day basis it was the kainga which defined the limit of communal activity and concern. Less frequently, the kainga combined within the maneaba to operate as a total community unit. Chapters 4 and 5 discussed in turn the community and the kainga as social units of separate orders. As that distinction no longer exists, the contemporary Gilbertese community is discussed within the limits of a single chapter. As spatial arrangements, both the kainga and the maneaba community as a whole contributed to the formation of a social structure which patterned status distribution, political control, defence, resource exploitation, and spiritual affairs. The effect of Western contact on this complex of relationships and its changing state is discussed below.

11.2 COMMUNITY SETTLEMENT PATTERN AND SOCIAL STRUCTURE

11.2.1 The Boti/Lineage Structure

It was noted that the kainga had been suffering under population pressure which had resulted in the formation of many subsidiary kawa. Added to this, through the process of marriage and utu inheritance of land holdings, the size of the kainga had been considerably reduced. Maude notes that even prior to the arrival of the missionaries, the majority of people on Beru were living on kawa and leaving the kainga to the heads of the boti lineages who performed the all-important ceremonies to the ancestral deities of the clan.[1] Nevertheless, the kainga continued to function and form the basis of community life, determining the formation of community sub-groups, and the means of uniting

the community as a whole. With Western contact, the kainga came under threat from a number of directions. Most obviously, the directive that all mwenga should front the lagoon-side road destroyed the notion of residential clan estates. Many islanders began disputing existing property rights and rekindling long-forgotten property disputes in an effort to obtain a road-side frontage. Others moved to distant parts of the island where they held property which bordered the road, or they moved in with relatives who lived alongside the road.

When the administration, in an effort to restore order, declared all land adjoining the road as government property most individuals were accommodated, but settlement was drastically altered. Though membership of the boti/lineage was primarily based on proven genealogical descent from the clan ancestors, it only became active when residential rights were taken up on the kainga estate. Because of population pressure, or for other circumstantial reasons, it was seen that it was even possible to become a member of a boti/lineage other than that from which one could trace descent, provided that one resided on the kainga of that adopted boti.

The concept of the boti/lineage was thus defined and derived its meaning in most part through residential affiliation. With the old kainga and kawa sites now occupied by mwenga with any number of boti affiliations, the very structure of the boti/lineage system was largely eroded.

The unification of the various clans within the maneaba was an extension of the boti/lineage system. Though each boti/lineage was distinguished by its particular lineage founder, by its clan ancestors, and by its clan anti, the various boti/lineages were united by their common allegiance to their maneaba founder and the anti of the maneaba itself. Whilst the kainga component of the structure had been des-

chapter 12

THE MWENGA UNDER CHANGE: ARTICULATION OF SPACE

12.1 INTRODUCTION

The term mwenga denoted both (a) the social unit that was the family and (b) the physical space and structures which they occupied as their residence. As a social unit, the mwenga was the basic level of a formal social hierarchy which proceeded to the kainga, the maneaba community, and finally the island community as a whole. Within each kainga, certain mwenga also formed unnamed groups composed on the basis of extended utu affiliations.

12.2 THE MWENGA AND SOCIAL STRUCTURE

The structure of the utu, unlike that of the boti/lineage, was not interfered with directly or forcefully by Western contact. Utu identity was based on consanguineal ties and on adoption, and it was only adoption which caused any concern to the immigrants. The resistance to adoption came from the Catholic missionaries who saw in the adoption of a Catholic child by a Protestant family the loss of a soul and a convert. Any pressure brought to bear was not however sufficient to alter the practice and so did not affect the role of adoption as a formative influence in the composition of mwenga populations.

The eiriki relationship, that being the practice whereby the sisters of a bride become potential sexual partners of her new spouse, was also not favoured by the churches and was soon prohibited. Traditionally, these women, should they have accompanied their sister to her husband's mwenga, would like her, have become utu to their new family in the code for conduct sense. The prevalence of this practice in pre-contact times is unknown, but the prohibition of the eiriki relationship must have decreased its incidence, thereby affecting the make-up of mwenga population profiles. It should be noted however that, whilst eiriki might have been prohibited, it did not prevent the possibility of

one or more of a woman's sisters accompanying her to her husband's mwenga. But in this respect they were not to be distinguished from any other relatives of the husband, affinal or consanguineal, who might also have moved to his mwenga as visitors, as extra help, or to relieve overcrowding or social tension in the mwenga they left behind.

The utu has been studied first because all permanent members of the mwenga, and all the mwenga which formed un-named but nevertheless co-operating groups within the kainga stood in utu relationship to one another, either in the form of identity or code for conduct. If the utu structure itself was left relatively undisturbed by Western contact, the behavioural relationships which were the manifestation of this conceptual grouping were very much affected and will be discussed presently.

The utu however was not synonymous with the actual familial social group which was the mwenga, or the group of mwenga which was in a sense the extended family. In this social group, membership was determined exclusively by residential status, and the various population profiles of individual mwenga which resulted were outlined in Chapter 6. The extended family was composed of the grouping of any number of these individual mwenga, and varied according to circumstances and over time. The extended family was characterised by all that the word means; a group of people linked by ties of blood or intimate friendship, living together, acting in economic co-operation, with concern for each other's welfare, and in daily social contact. The extended family, like the boti/linage, was seriously disrupted by Western contact.

Because of its dependence upon residential affiliation, the extended family was threatened by the requirement that all mwenga should front the lagoon road. The administration did not recognise the existence of the extended family

and treated each mwenga as an independent unit. In an attempt to find a residential plot along the road, many mwenga groupings which had formed extended families within the kainga land tract became partially or totally segmented, and only those which were in any case small, or which had access to a large road frontage, managed to remain intact. This was the first major impact of Western contact on the mwenga and its effect is analysed in the following sections.

With extended families living in discrete groups within the kainga, and with all inhabitants of the kainga connected through boti affiliation, each individual was formally allied with his co-residents. The new arrangement not only broke up these allegiances but placed the individual mwenga inhabitants in a position where their neighbours, though resident only a few metres distant might not only be non-utu but members of a different boti as well. Whilst the boti was rapidly losing its meaning through the disintegration of the kainga and the restrictions on the use of the maneaba, the conflict of boti affiliation became less important. But the islander was faced with the novel situation of living in daily relations with others who were not his kindred, and thus with respect to whom formal behavioural relations were not specified. This seemingly insignificant (in the eyes of the administration) alteration to physical settlement pattern was in fact highly significant for Gilbertese social relations. With the boti virtually inoperative, and in the new spirit of Christian fellowship, the Gilbertese adapted to this change without significant upheaval. Though there was a degree of chaos and disturbance during the initial period of settlement change, this occurred between members of the same boti and even utu, as well as between unrelated individuals. But once the residential pattern had begun to stabilise, friendships between neighbours gradually developed, and in many cases became formalised through the label of 'as-if' kin. In fact utu structure readily accepted this seemingly new

social relationship. Membership in the utu, it is remembered, could be via identity or code for conduct, and in this latter sense friendly neighbours could thus be regarded as kin. Neighbours who established such a relationship conceived it in these terms and established corresponding reciprocal obligations towards each other, though not to the same extent as with closest kin.

In terms of the structure of social relations at the level of the mwenga, this is all that need be said. The traditional mwenga profiles described in Chapter 6 remained unaltered; it was their extended family groups within kainga which changed to that described above. Again, the impact of these changes is the subject of the following sections. The range of existing households on Tabiteuea was documented by Geddes in 1975.[1] The figures show that only 71 out of 387 total households (18%) are composed of more than one family unit, that is, are extended families. See Table 1.

Though figures cannot be ascertained, it appears that this is a reverse of the traditional arrangement, the only single family households being mwenga on bush lands and possibly odd single family dwellings within the kainga or kawa.

12.3 THE MWENGA, AUTHORITY AND STATUS

It was noted that traditionally mwenga were generally not autonomous units but were amalgamated into extended family groups within the kainga. Authority and status within these groups followed the same pattern as that which operated across the larger communities of the kainga and the maneaba hamlet; authority and status were distributed in accord with the age-grade system and with males having higher status and authority than females. The greatest authority within the extended family group was thus vested in its senior male member, with each senior resident of the individual mwenga which composed the extended family having only limited authority. The situation was not as clear-cut as this might at first sound, for the utu was closely linked to the family. As described in Chapter 4, it was possible for a unimane to have utu resident within extended families other than his own over whom he nevertheless held ultimate authority. These people, whilst utu to the unimane in the identity sense, were not, in the daily course of events, utu in the code for conduct sense and so were not normally his responsibility nor did they generally come under his authority on a daily basis. The spatial distribution of individuals was important in the actualisation of authority and status, for the simple reason that an individual could not easily exert influence over the daily affairs of a group who were not daily in his presence. It was for this reason again that it was thought necessary for a newly established mwenga to be proximal to the parental (or equivalent, e.g. avuncular) mwenga of one of a newly married couple. Effective authority and control required supervision.

Seen in this light, the physical settlement changes brought about by the administration further lessened the influence of the unimane over island affairs, an influence already diminished by mission activity. Where the mission decreased

influence of the unimane over communal affairs, the administration lessened it over domestic affairs.

By physically breaking up many of the extended families, the influence of the unimane was indirectly diminished through decreased possibility of supervision. Further, the administration saw each mwenga as an autonomous unit and held each mwenga responsible for its own affairs, rather than the head of the corresponding utu group. This change is summarised by Geddes:

> "Traditionally the mwenga had little place as an independently functioning kin group ...(but it) became the basic kin unit and the only residential kin grouping." [2]

Over the course of this century the increasing economic independence of individuals and their independent mobility (to other outer islands, to Tarawa, Ocean Island, and Nauru) has reinforced this state of affairs.

Nowadays Gilbertese youth have the option of remaining with their family on the outer island of their birth or of seeking employment elsewhere. Should they move, they would still install themselves with relatives. And upon marriage they would still remain in close association with, and in residential proximity to, their relatives or parents. Where unemployed they have little choice, for their situation is not significantly different from what it was in the pre-contact era, and an independent existence would be difficult to maintain.

Those, whether single or married, with more highly paid jobs, and particularly those who areentitled to government housing, form the only exception as their independence is a natural consequence of their position. Adults employed as civil servants on the outer islands are a typical example of this group. Nevertheless, the normal bonds of friendship

and particularly the basic dependence of the Gilbertese on land, still tend to maintain the authority of the senior family members, for disrespect of this authority could lead to disinheritance.

As the young married couples gradually have families, those who remain with the parental mwenga will form limited extended families and the parents (now grandparents) retain their authority over the running of that extended family. Spatial pressure does not normally allow all second-generation families to live in proximity to the parental mwenga, and those which depart tend to form independent nuclear family units, responsible to themselves for the day-to-day running of their mwenga. The degree of independence is partially governed by the distance of remove from the parental mwenga, and partially governed by the degree of independence desired. Independence is not always a desirable thing and by maintaining a high level of contact, and especially by returning children to live with their grandparents or grandparents-in-law, some of the physical barriers working against unity can be overcome. Traditionally, residential proximity had defined the social group within which both elements of the utu system, identity and code for conduct, could operate. Within the group so defined, the status structure identified the relative authority of its various members. Thus spatial grouping was intimately connected with the patterning of domestic unity and control.

The post-contact alterations to this pattern serve to illustrate both the deterministic and the arbitrary natures of the relationship between built form and the cultural constructs of status and authority. Where the Gilbertese desired to maintain the traditional workings of status and authority within the domestic sphere, then the spatial dislocation of the group so concerned certainly disrupted these workings. The existence of that disruption points to the deterministic or at least affective nature of the

pattern of built form. But equally, physical proximity was not a necessary condition for domestic unity, and the Gilbertese kin groups, where they so desired, could find means of overcoming their spatial dislocation. Spatial unity was thus an effective but not necessary condition for social unity and control. Further, when free to do so, the Gilbertese used a spatial arrangement in defining their domestic institution. Traditionally the spatial grouping of mwenga was meaningful in this sense. Today it is much less so and other means, social, not physical, have been adopted to pursue those cultural ends still deemed desirable.

Conversely, there has been an increasing movement on the part of individuals, particularly youth, towards greater independence from the traditional extended family structure. The physical dislocation of kin groups in the various manners so far described advantaged this movement, though it was not consciously intended that it should do so.

12.4 THE SITING OF MWENGA, RESOURCE EXPLOITATION AND MANAGEMENT

12.4.1 Introduction

Traditionally each mwenga was primarily responsible to itself for the provision of resources. That some mwenga within larger utu-based mwenga groups had usufruct privilege over land owned by the utu head only further testifies to this fact. Because of the utu bond, however, each mwenga within these larger groups could rely on the aid of others should their resources be depleted through ill-fortune, or should extra assistance of any kind be required.

It was also noted however that there were certain kainga rights to fishing grounds and ponds and that the kainga population could as a whole co-operate on fishing exped-

itions. The proportional contribution of such excursions to the overall food requirements of the kainga populations could not be ascertained. It could also be assumed that in times of drought the entire kainga would have co-operated in the securing of resources, as they did when facing other external threats of concern to the kainga as a whole, for example the threat of warfare.

12.4.2 Changing Patterns of Resource Exploitation

The destruction of the kainga removed one basis for large-scale co-operation in the pursuit of food resources. Though the fate of the fish ponds is not known, the lagoon fishing rights became defunct.[3] Where the kainga group had served as a basis for co-operation in times of drought, the new Christian attitude of brotherhood of all islanders took its place. Government assistance, and more recently external aid, further replaced the function of the kainga in this respect. Though there is still co-operation in times of crisis, communal co-operation in the normal pursuit of food resources was brought to an end. Recently the Department of Agriculture has been attempting to persuade islanders who own adjacent land to group their resources and to undertake systematic clearing and planting in an effort to improve production. On Onotoa this has met with little acceptance, though where the idea has been taken up the results have been a success. The average islander is however very reluctant to join in any co-operative venture with a neighbour with whom he has no kin tie; and this is the usual case, so fragmented are the utu land holdings on each island. The traditional resistance to co-operative agricultural ventures is nowhere more readily seen than in the method of babai production. Each pit is often owned by a certain number of people (for example, three brothers), each of whom owns a specific portion of it. Despite the fact that the pit may be no more than 5 metres square, the babai is not tended co-operatively but each owner tends only

his specific portion, and, should one owner neglect his plot, it is left to go barren.

With the break-up of the kainga and consequent fragmentation of the utu-based mwenga groups, a more serious change occurred in the traditional manner of resource exploitation and management. Whilst the whole kainga could co-operate in times of crisis to alleviate serious food shortages, it was the extended mwenga group which safeguarded each individual mwenga against short-term failures in the securement of resources. Though droughts were infrequent, such short-term failures (an unsuccessful fishing excursion, for example) were not. And at the other extreme, an occasional surplus of food resources, which a single mwenga could not consume whilst fresh, could be distributed amongst the group ensuring over an extended period a constant supply of fresh (as against preserved) food to all. With the fragmentation of the mwenga groups, this device was no longer available, though it could still operate between those mwenga which, though no longer adjacent, were still within the same village.

Over the years the islanders have responded to this situation by the formation of those groups which Geddes connoted as 'as-if' kin.[4] Adjacent mwenga in daily social contact frequently formed close friendship bonds, though no formal kin ties may have existed between them. On this basis, surplus food was shared between them in the same manner as if they were kin, but the relationship did not approach that described as utu role of conduct. Whilst food (and other resources) could be given and accepted freely, there was no provision in this relationship for food or other assistance to be actually requested. In this it differed from the formal utu code of conduct.

The effect of this attitude on settlement pattern is significant. Traditionally the grouping of mwenga, on the basis

of utu ties as insurance against resource failure, tended to give a concrete meaning to the concept of kinship. Just as in the previous section it was seen that kinship was meaningful in the sense that it was formative of one of the groups within which the status hierarchy was structured, so the utu was also meaningful as a determinant of those groups where some type of resource exchange was practised. And since the utu was a relative rather than actual social group, residential affiliation gave it its actuality, and in thus doing built up its meaningfulness.

With the utu-based mwenga groups broken up by the destruction of the kainga, the notion of utu lost much of its operational content - in this instance, in the decline of the residential utu group as one which functioned co-operatively in relation to resources. But, because of the harsh and unpredictable environmental conditions which prevail on the atolls, some kind of insurance against resource failure is still required, and residential proximity has persisted as a means of forming groups (the groups of 'as-if' kin) which can provide this insurance.

Discussion so far has concentrated on large-scale resource exploitation and measures taken to combat resource shortages. The normal daily procurement of food resources remains, however, as it was traditionally, the province of each individual mwenga. Despite the introduction of imported produce, mwenga on Onotoa still depend upon local produce for the bulk of their diet. Accurate figures on the ratio of imported/local foodstuffs are difficult for a single independent researcher to acquire, though two mwenga were studied.

The first mwenga was, at the time of study, composed of an elderly but still active unimane, his daughter-in-law, and her three young children. Despite the fact that the three children of the unimane were all in senior, well-

paid positions on Tarawa, the staple diet of the mwenga was primarily coconut, fish, and pandanus, supplemented with rice, tea, sugar, salt, and flour. The amount of money coming to the unimane was not sufficient for the diet to be entirely of imported produce, and, further, no fresh food was available from the co-operative store.

The second mwenga consisted of the Agricultural Officer, a native of Nououti Island, and his wife. His job prevented him from spending time gathering food, and being landless he could only rely on the sea for his food resources.[5] He, along with other residents of the government village, were thus forced to rely heavily on imported produce, though they had also to find fresh food.

Both these mwenga, whilst in a better position than most to exist on imported produce, still had to rely on local foodstuffs. For the bulk of the population on Onotoa, imported foodstuffs, even sugar and tea, were regarded as luxuries. Each mwenga is therefore very much reliant on buakonikai holdings for its food resources. The siting of mwenga is thus related to the availability of land in the possession of, or available to, the residents of that mwenga. The great difference from pre-contact times is the freedom afforded islanders to move between the mwenga and their buakonikai holdings. Where traditionally movement through adjacent maneaba districts was dangerous, and even dangerous within a manaeba district in times of internal unrest, this is no longer the case.

On Onotoa for example, though many maneaba have sufficient buakonikai lands close at hand, it is common practice for residents of the northern islet to periodically exploit holdings up and down that strip of land. Frequent visits are made to these holdings purely to clear and tend the land to ensure their coconut production stays as high as on their closer holdings. Since the outer islands are at

present not over-populated, finding a mwenga site close to the larger and more fertile buakonikai holdings is not problematic. But should this change, it is unlikely that the necessity for travel from the mwenga to buakonikai holdings, provided they were on the same islet, would present great difficulty. In this sense the choice of mwenga site is no longer bound by the need that it be proximal to buakonikai land - save for convenience.

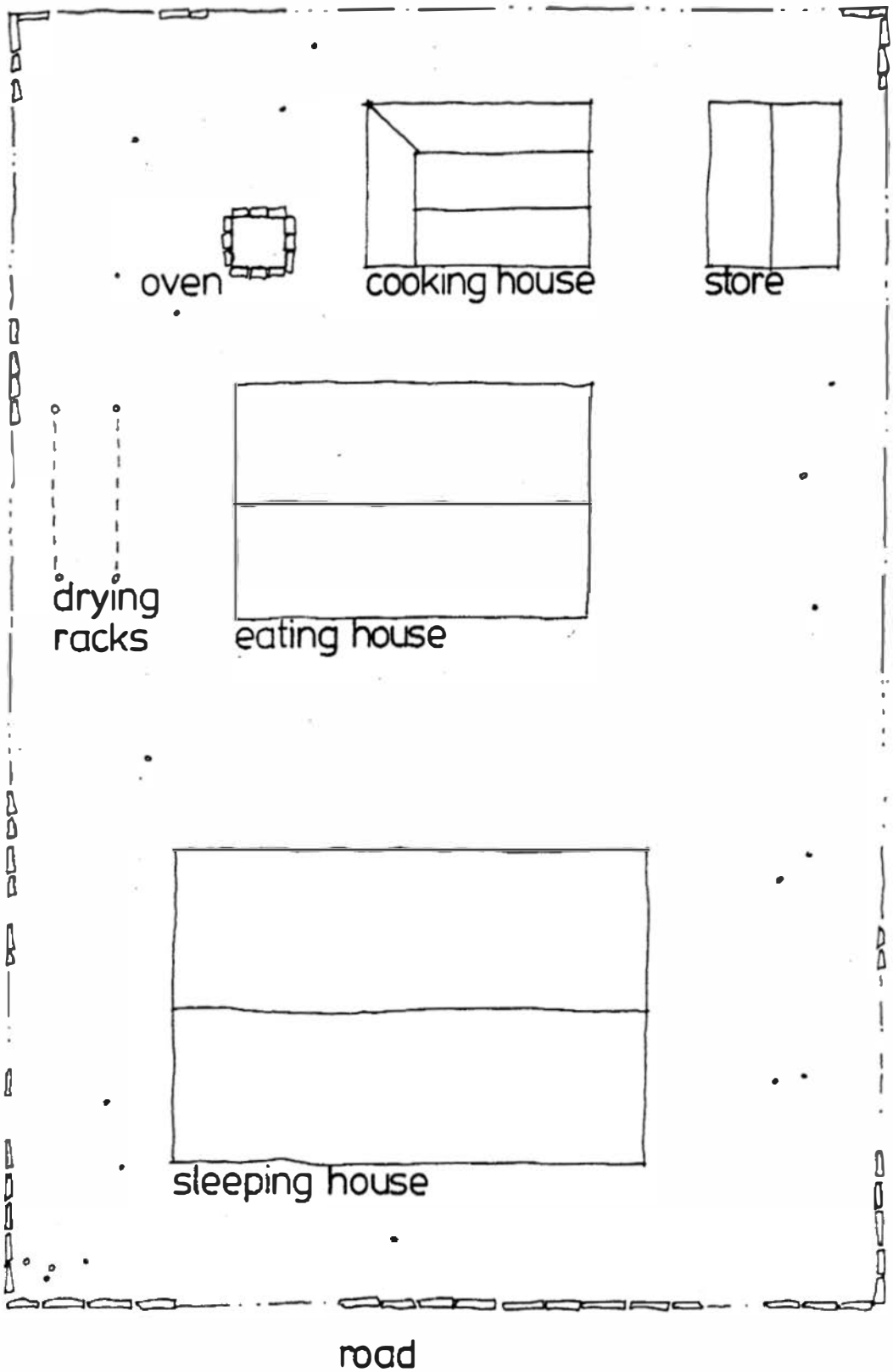
12.5 THE MWENGA, PHYSICAL FORM AND CONSTRUCTION

12.5.1 Site Layout

Traditionally the activities of sleeping and eating centred in and around the principal bata on the mwenga site. Food preparation and cooking could also be conducted here, though these activities could also be associated with a section of the storehouse, the sheltered hearth (either a lean-to or bush structure), or the open fireplace.

The lack of spatial differentiation between these separate functions was seen by the administration as unhygenic, and regulations were enacted whereby each mwenga was to consist of three separate structures, a sleeping house, an eating house and a cooking house. Detailed information was not available but it was learnt that initially the new mwenga were roughly evenly spaced along both sides of the lagoon road and some metres apart. To achieve maximum density the even sites (all land had been declared government property) were long and narrow with the three principal structures arranged axially at right angles to the road. See Figure 1.

By the 1960's, when regulations had been repealed and land ownership and/or occupation within the village districts relatively resolved, this regimental pattern was no longer strictly adhered to. Within the villages and particularly



TYPICAL MWENGA LAYOUT

FIGURE 1

towards their outskirts, dwelling plots are no longer possessed of equal frontages. Irregularly sized plots, all now individually owned and capable of further sub-division, make up the present village landholding. The variability in the size of landholdings has provided a degree of flexibility in the placement and orientation of structures within the mwenga site - as in pre-contact times.

Figure 1, page 356 details the current layout of building structures in the village of Tanaeang. Sites 30a, 31a, and 32a are indicative of the immediate post-contact layout of mwenga. The principal bata, the sleeping house or uma-ni-matu, was sited adjacent to the road with a setback of approximately five metres. It had been traditionally oriented with its longitudinal axis parallel to the meang-aiaki axis. The secondary bata, the eating house or uma-n-amarake, was sited behind and parallel to the sleeping house - again approximately five metres distant. The cooking house or uma-ni-kuka and the storehouse (optional) were erected at the rear of the site. The cooking house, of unspecified proportion and often open on up to three sides, could be variously oriented provided it remained parallel with, or at right angles to, the meang-aiaki axis. The storehouse could be similarly positioned.

The gradual transformation of this formal pattern which has taken place since the repeal of the Island Regulations can be seen in Figure 1, p.356. On the majority of now vacant sites still stand stone boua, the corner posts of abandoned bata. As ownership of the lands alongside the road reverted to the islanders and with the requirement that all mwenga be located within the village no longer in force, mwenga not on their own lands tended to move onto sites between the villages where they did own land and where they could live closer to their buakonikai holdings. This greatly increased the flexibility of the siting of those mwenga

groups which chose to maintain residence within the village, either on their own land or by arrangement with another landowner. The smaller mwenga could still easily establish themselves within the confines of the average-sized plot, but larger mwenga were often free to spread to plots on either side. In the process of this expansion new structures were built, and already existing structures were maintained, though frequently undergoing a change in use.

In the pre-contact era, each mwenga, or utu-allied group of mwenga (which were often sited at some distance from the lagoon shore), possessed a bareaka which housed their canoes. The bareaka of the various mwenga within each kainga were spread out in a line along the lagoon shorefront of the kainga, lying longitudinally E-W. With the disappearance of the kainga and the kainga-based utu groups, each mwenga had to find a site for its bareaka. A number of options existed.

For the sake of convenience the ideal site was on the lagoon side of the road close to the water's edge, and for mwenga similarly situated there was little problem provided they had sufficient space. For the other mwenga a site had to be found elsewhere. Either this was on land owned elsewhere within walking distance, and adjacent to the shore, or some arrangement had to be made with another landowner. To the Gilbertese the canoe is a possession of great importance and those solutions which required the storage of such a valuable possession at some distance from the mwenga could not have been seen as desirable.

Where, after the repeal of the regulations, mwenga had the chance of expanding to sites adjacent to their living quarters, it commonly occurred that bareaka were erected on these sites, or that one of the existing structures was used for canoe storage. Figure 1, page 356 shows that of the 26 bareaka in Tanaeang, 17 are of this type. The remaining nine are traditional bareaka built on the shoreline.

Also common was the conversion of adjacent bata to cooking houses and storage houses. The following table shows the current site grouping of mwenga units in Tanaeang, listed by plot numbers given in figure 1, page 356.

Mwenga No.	Plot Nos.
1	1a, 2a
2	6a
3	8a
4	10a
5	14a
6	18a
7	20a, 21a
8	22a, 23a
9	24a
10	25a
11	28a
12	29a, 30a
13	31a
14	32a
15	34a, 35a
16	36a, 37a
17	38a
18	1b, 2b
19	8b
20	9b
21	10b, 11b
22	13b
23	15b, 16b, 17b
24	20b, 21b
25	23b
26	27b
27	29b
28	32b, 33b
29	34b, 35b
30	35b, 36b
31	37b
32	43b, 44b
33	45b
34	46b

12.5.2 Structural Form of the Bata

Of the various elements which compose Gilbertese built form, the bata would appear to have been the least subject to outside influence and change. Still constructed with indigenous materials - coconut and pandanus joined together with coconut sennit - the contemporary bata typifies superficially the Westerner's model of the primitive hut. Yet the differences between the traditional and the contemporary bata are considerable.

(a) Plan Form

The possible plan forms of the traditional bata were subdivided into nine variations. It was suggested by a number of informants that the administration dictated a size and proportion for the bata at the same time as they moved them alongside the island road. Though this proportion could not be ascertained, other informants stated that the proportions of a bata should be 1/b:4/3. Whilst this closely approximates one of the Tokabeti-style subdivisions, it too is arrived at by a simple string division, and thus its nature cannot be regarded as an approximation. It may therefore be that the 1/b:4/3 ratio was in fact the proportion dictated by the administration, or that it is a decayed Gilbertese version of the original nine-component style. And yet another possibility exists. Traditionally bata within a maneaba district were supposed to be built in accord with the style of the maneaba itself. The present population of Tanaeang is drawn from across the island and even other of the Gilbert Islands and they have all brought with them their own style of building. Without the chance of contacting each original builder it is now impossible to establish with any reliability in which style each of the bata was constructed. This is especially so because some of the bata have been standing for more than two generations. It may therefore be that the 4/3 style was brought from another village or another island.

Examples of bata with this proportion exist in Tanaeang but there is no way of establishing where the ratio came from.

The construction of two bata was studied during residency on Onotoa. One of these was in the l/b:4/3 ratio, the builder naming the style as te tabanin (square). Te tabanin was not, however, a style forming part of a larger classification. It was described by the builder as the style for bata, as opposed to te barewa style (bare = fale = Samoan for house and voa = canoe), the style for canoe sheds. Te barewa style has an l/b ratio of 4/1. The second bata was constructed in the Tengaonio subdivision of the Tokaboua style with an l/b of 3/2. The builders of both bata would give no explanation for the choice other than that it was their way to construct the building, and that, if each were not constructed to that proportion, the well-being of the occupants would be threatened.

It was concluded, and verified in discussions with Onotoans, that there was an appropriate proportion for each and every bata they built. Whilst young married men were quite capable of erecting a bata themselves, they would nevertheless always engage a close member of their utu fully skilled as a builder to supervise construction. This was partly to comply with expected conduct between utu members and partly to conform with the still maintained belief that the future of the occupants of any newly constructed bata was influenced by the manner of construction. The only way of ensuring the correctness of the building procedures was to build under the supervision of an expert.

Whilst it may therefore be that much of the formality, elaborateness, and prescriptiveness of traditional lore relating to bata proportion has lost its relevance to the contemporary outer islander, it remains important that the proportions of a bata should not be arbitrary. Regard-

less of the particular proportion used (which will vary from builder to builder), the islander still seeks a means of expressing his concern for his future welfare and that of his family, and a means for realizing the concept of the consanguineal relationship with all the benefits which accrue from its maintenance.

(b) Construction and Structure

The two principal structures on mwenga sites, the sleeping house and the eating house, are usually distinguished by the addition of a raised floor to the former. This too was a requirement of the European administration, who were concerned about the lack of hygiene associated with sleeping on the ground. Though creating perhaps more problems that it solved (young children tended to fall off), the raised floor is often still retained by those builders prepared to expend the additional resources and labour involved in its construction.

The principal reasons for its retention are related to its effect on the use of space in and around the bata and are therefore discussed in the following section. As a European introduction, its form of construction is non-traditional and therefore has no specifications attached to it. Each builder can freely manipulate the form to his own design and a number of alternatives are given in figures 2, 3, 4, 5, 6 and 7.

The floor shown in figure 7 is by far the most common on Onotoa and represents the type of construction used in more than 90% of the bata studied at Tanaeang. The variations could well have precedents in the two-storied bata reportedly existing on Tamana and Arorae, though this could not be checked. The method of construction of the floor boarding itself, however, is identical with that used for the upper floor sometimes found in traditional

bata with ceiling storage. The correct height of the tabanga in a bata with raised floor is still calculated as before, but the distance is measured against a man seated on the floor rather than on the ground.

Raised floor aside, the contemporary bata is structurally identical with its pre-contact counterpart. The variation in constructional detailing which can now be found between bata within a single village does not stem from experiment and change, but, like the variation in proportion, from the importation of traditional constructional styles from other villages and islands.

The following are detailed measured drawings of two bata surveyed at Tanaeang village, Onotoa. See figures 2,3,4,5,6,7,8.

(c) Cultural Significance of the Bata as a Structural Form

Magico-Religious

All the data related to the construction of the bata were collected in the field. The descriptions, apart from the exceptions so far documented in this chapter, did not distinguish between the pre-contact and the post-contact dwelling. To this extent it is possible to say that the Onotoans were indeed describing the bata as they now know it - they were not merely describing a state which had once existed but had since become in the main a memory. This is possible, even within the relatively undifferentiated Gilbertese society, because of the multiple value sets which now compose their culture. Aspects of pre-contact Gilbertese theosophy and philosophy stand side by side with aspects of Christianity and Western materialism.

Despite the inroads of Christianity and the almost complete replacement of public magico-religious ritual by Christian

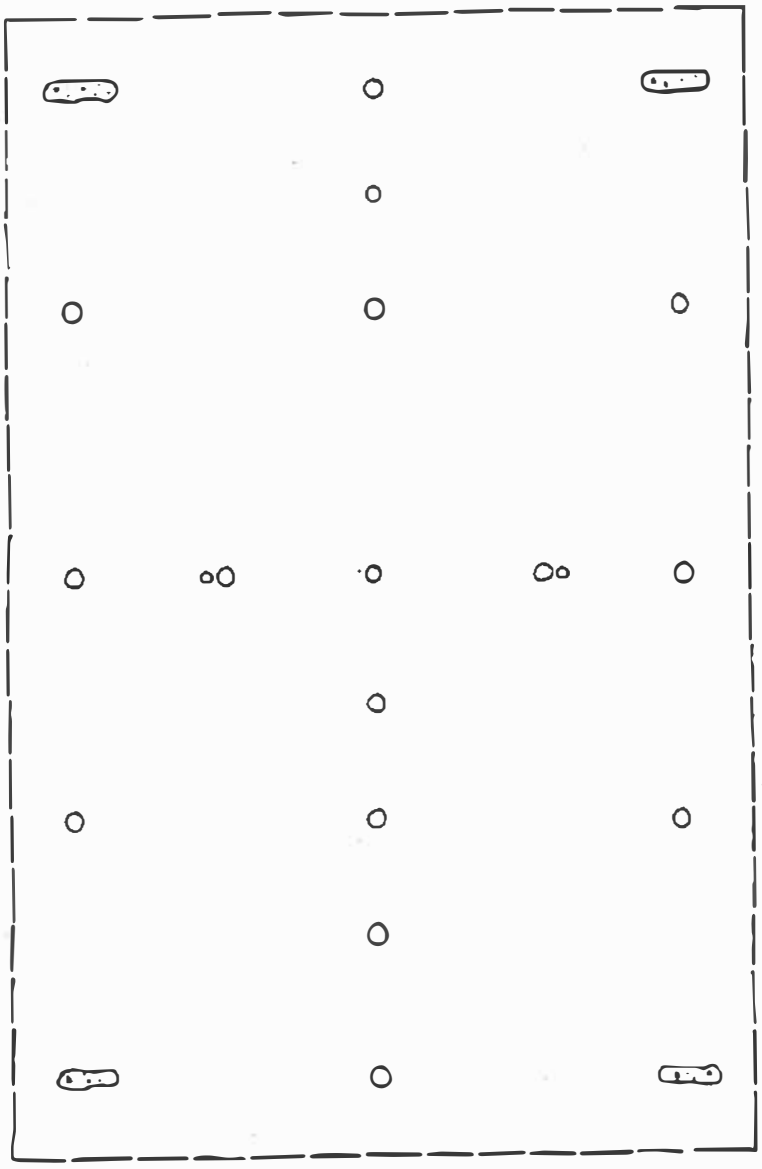


FIGURE 2

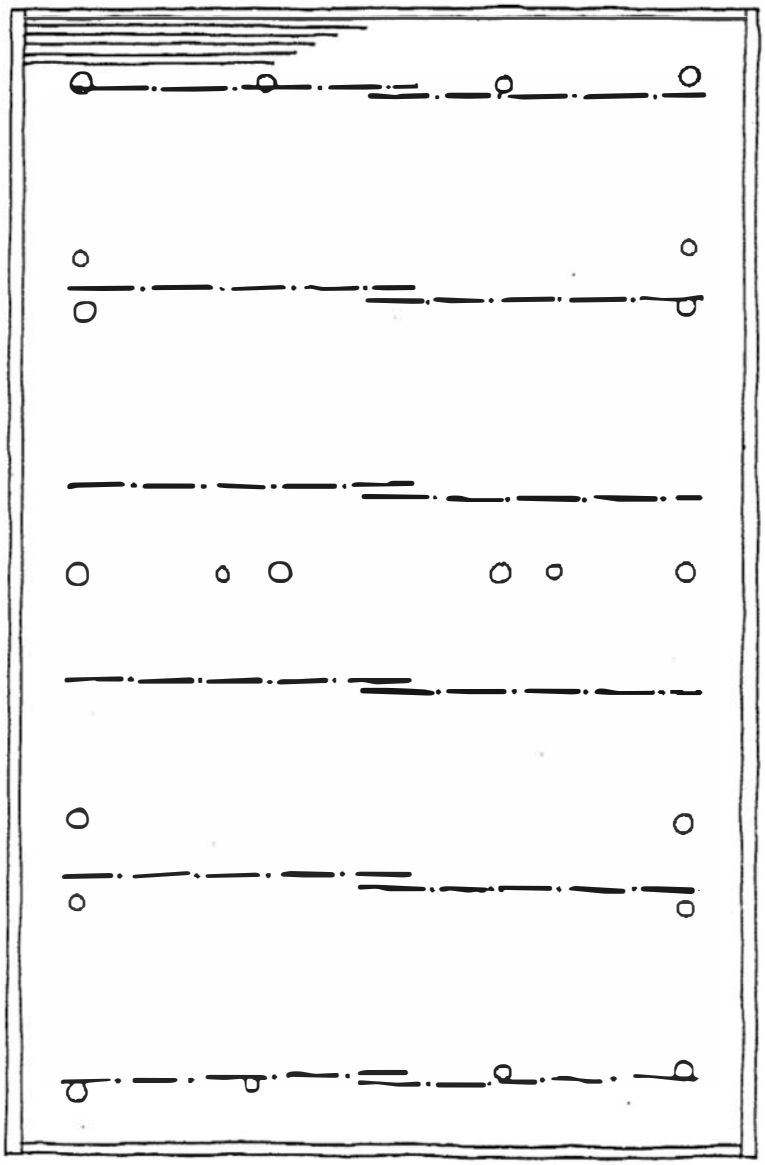


FIGURE 3

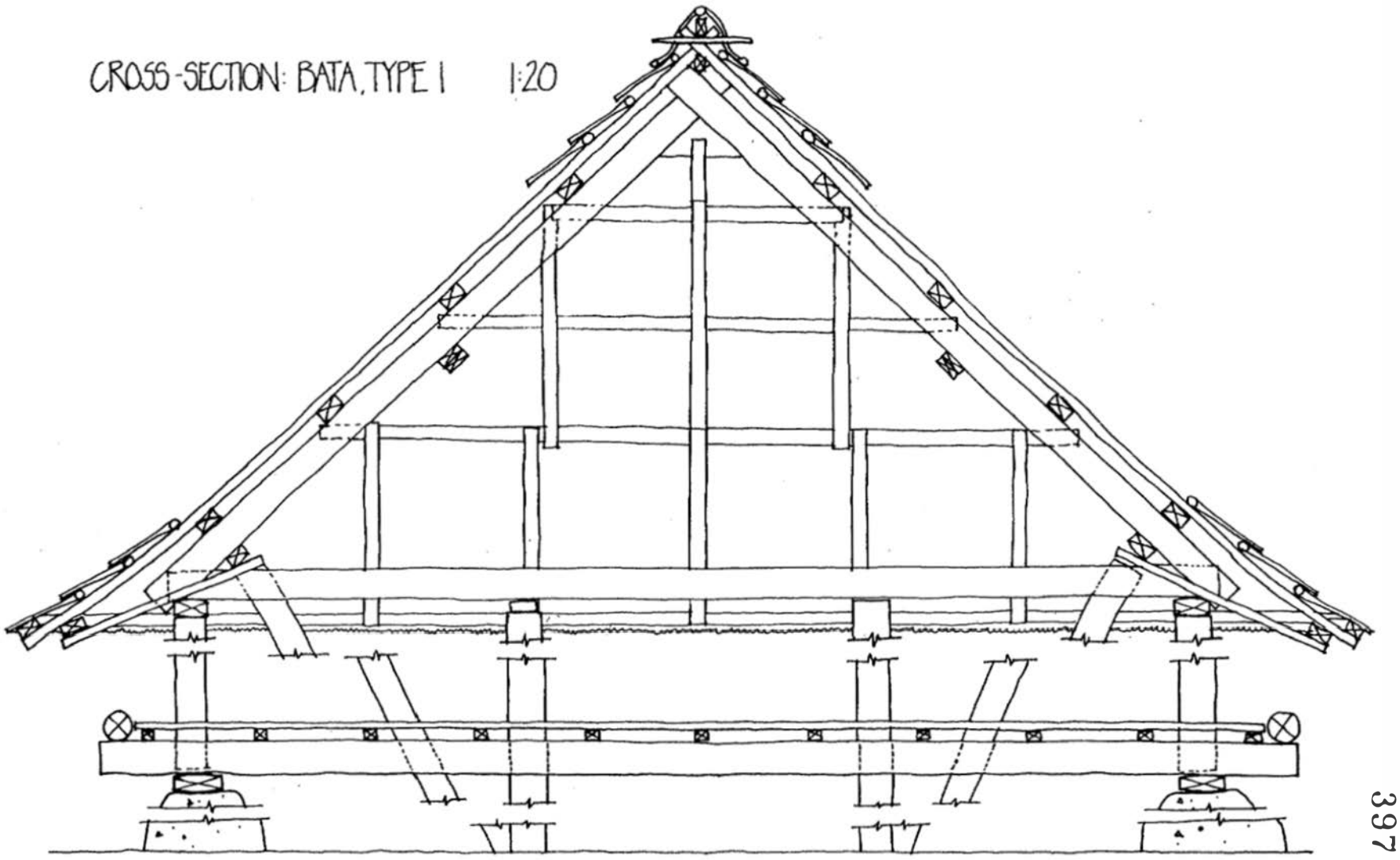


FIGURE 4

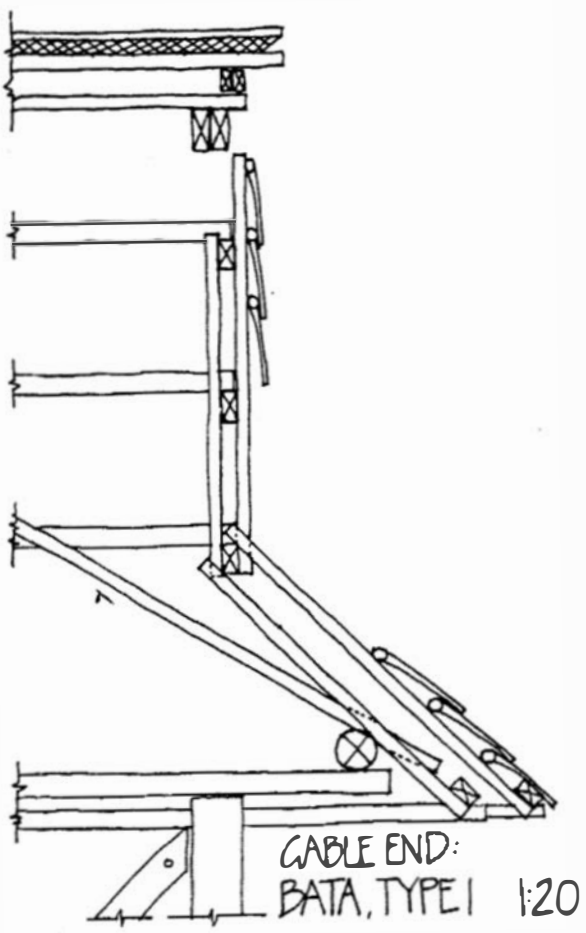


FIGURE 5

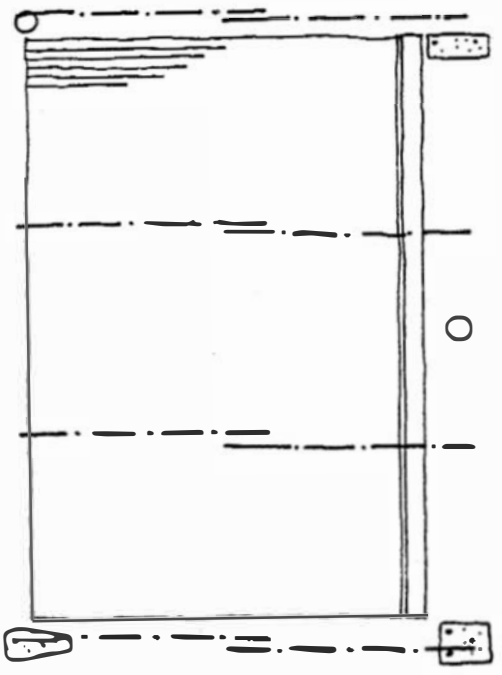


FIGURE 6

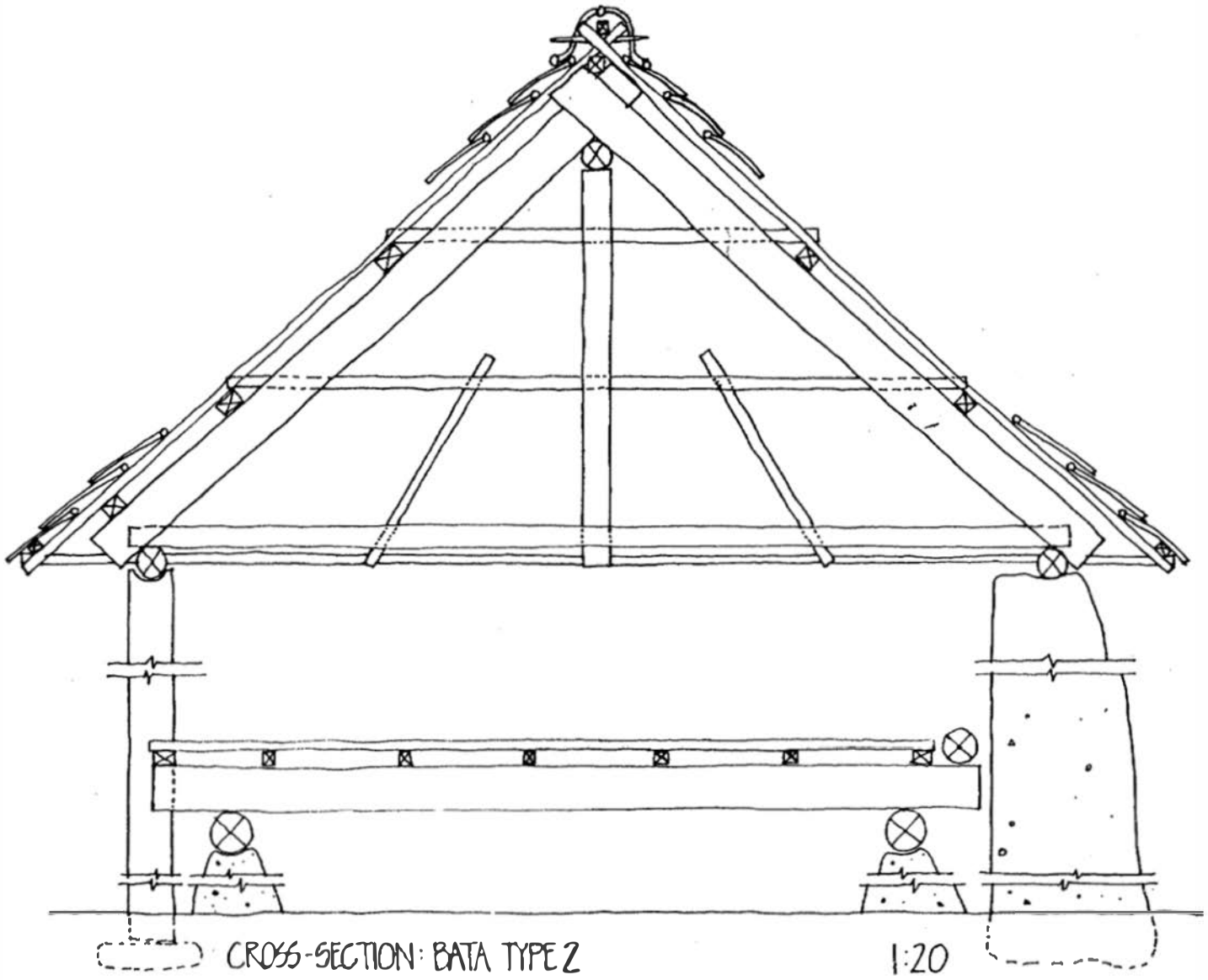


FIGURE 7

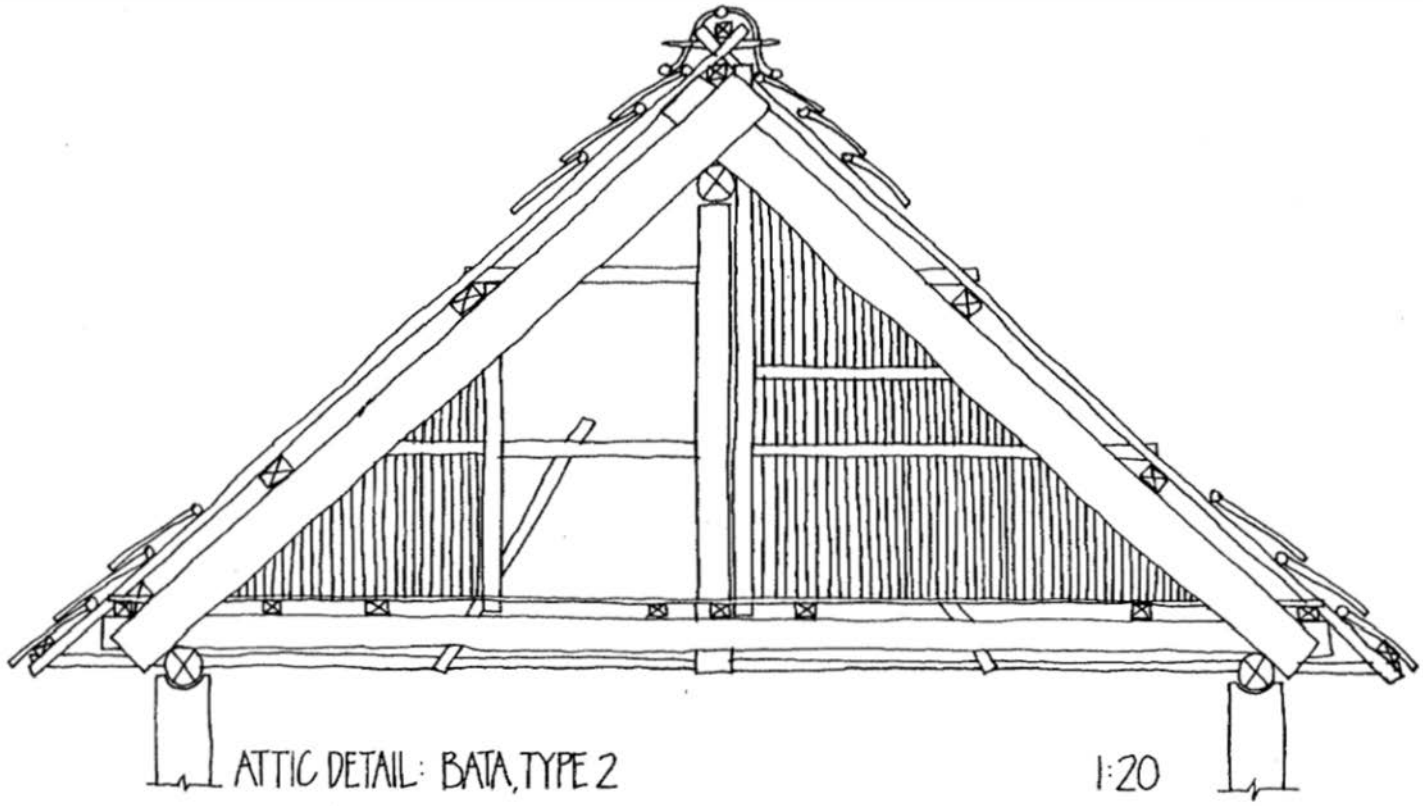


FIGURE 8

ritual, the gods and semi-deified ancestors of the Gilbertese have not been rejected. It was seen earlier that to pre-contact Gilbertese the spiritual world and the everyday were not distinct but formed a single entity. In part the attachment of the great variety of deities, totems, and spirits to particular aspects of life gave them this immediacy. But more importantly the degree to which the ritual associated with the deities permeated everyday life expressed the close involvement that the Gilbertese saw his deities as having in his daily affairs. The outlawing of overt pagan ritual could not kill off the pagan deities though it did effectively remove them from involvement in the everyday world. And it would appear that on Onotoa at least the Christian god, by becoming everything through his omnipotence, has also receded from the world of everyday reality, Sundays excepted.

Thus whilst the Onotoans can still identify the rabata (body, presence, essence) of their deities and spirits in elements of the bata, their existence as such is of minor importance and little referred to compared with pre-contact days.

However it was often indicated (though thorough discussion of this topic was difficult) that, while public pagan ritual had been effectively eradicated, it was to a limited extent still practised in private, especially by elder Onotoans. As these elders are the current bata builders and are also the ones who supplied most of the data, it is not surprising to find that they still see relevance in the traditional constructional practices and in their significance.

But there is a factor of even greater import for this thesis. Since Western contact, the Gilbertese have gradually become literate. Onotoans have quickly taken the opportunity to preserve in writing the oral traditions of their culture. It was common for informal interviews with Onotoans to

be followed by a second meeting where the individual elder would expand upon his earlier commentary by reference to his own writings on the subject in question. Where the bata, like the maneaba, served as a structure for plotting the major Gilbertese deities and ancestors, and the relationships existing between them, this function has now begun to be replaced by written texts. The majority of these are private manuscripts but they are supplemented by radio commentaries held on tape, by government and private society archives, and even by school texts. This well illustrates an important aspect of the nature of the relationship between built form and culture. Whilst the Onotoans used the bata to express many of their spiritual beliefs, it was not the only means by which those ideas could be expressed. It would therefore be dangerous to regard any discovered relationships as fixed and necessary.

A number of aspects of the structure and form of the bata were traditionally associated with the welfare of its occupant. The missionaries were aware of the close connection of pagan ritual and craft activities and attempted to break that connection, either through persuasiveness or the actual outlawing of the activities. The eradication of private rituals was difficult. Their survival attests a continuing desire on the part of Onotoans to express their shared beliefs about the nature of forces which shape their futures, and suggests that, in addition to the Christian god, Western science, and reason, traditional forces have a role in shaping that future.

Overriding all discussion so far in this section there also remains the condition that Onotoans do have a stake in maintaining much traditional lore. The possession of the greater part of the lore resides with the elders. Through that possession, they justify their status within the community, and later, when they reach an age where it becomes difficult for them to be self-sufficient, it

is a resource which can be exchanged for material support. Conversely the younger generation, still anxious to secure their future inheritance, have a motive for complying with the ways of their elders.

Thus it is that, independently of the nature of any specific relationship between built form and some other aspect of culture, that relationship itself can be the structure upon which some other cultural construct is built. So it is possible for the built form relationship to survive, even after it has lost much of its own essential meaning, for the purpose of maintaining some secondary function - at least until that secondary function can be achieved through some other more appropriate means, or until it, in its turn, decays or is replaced.

Social and Philosophical Significance

The earlier discussion (see Chapter 6) of the traditional social and philosophical significance of the bata still holds today. It was again based on data collected in the field and represents a combination of past and contemporary Onotoan appreciation of this aspect of their architecture. Though included in the earlier section, it should more accurately be regarded as contemporary thought and, if anything, one should assume that the description of pre-contact ideas is probably incomplete.

The Bata and the Western House

A number of 'Western-type' houses built in imported materials exist on Onotoa. Some have been provided for the island pastors and some for administrative staff. It is important to recognize that there are thus at least two different models of 'house' that the present day Onotoan knows. These models are recognized as being quite distinct.

The values associated with the imported house are entirely materialistic and it is not seen as possessing, nor has it ever been presented as having, any significance of the sort so far outlined in this chapter. Its value is seen to be in its low maintenance requirements and durability, and, to a limited extent, in the possibility it offers of rain water collection. The two value sets each relate to separate artifacts, though both artifacts are recognized as houses.

The patterns of individual assessment and ultimate incorporation of part or whole of one or both of these value sets into personal attitudes and actions cannot be included here. It could however be of interest to note in passing that an attempt was made on Tarawa to provide housing which was a combination of the traditional bata and a Western house. The structure resembled a bata in form but was constructed of imported materials.. At the time of this study it had not been accepted by the Gilbertese, and the principal reason advanced for this rejection was that it was not correctly proportioned. Whether or not this was in fact the underlying problem, the Gilbertese obviously considered it reasonable to express their dissatisfaction in these terms; yet they had not expressed this concern in relation to the Western-type housing in which they had previously resided. It would seem therefore that, with regard to form and its significance, there is a point where a building is regarded a bata and is subject to assessment in those terms.

12.6 CONSTRUCTIONAL PRACTICE

12.6.1 Use of Materials

The schedule of materials documented in Chapter 6 remains unchanged for contemporary building practice. Despite the availability of imported materials, their cost is prohib-

itive, and all private housing on Onotoa is constructed in indigenous materials.

The Gilbertese do, however, recognise the superiority of imported materials with respect to certain qualities, this being especially notable with roofing material. Having witnessed the durability of corrugated iron and asbestos cement sheet roofing, the islanders frequently complain about the amount of labour required to maintain a thatched roof. However, the price of corrugated iron has excluded it as a viable option for domestic construction.

12.6.2 Preparation of Materials and Components

Though traditional materials are still used for bata construction, the method of working them has been changed considerably by the availability of iron tools - especially axes, saws, knives, and crowbars.

Nevertheless, the impact of the introduction of these tools has really been limited to the resultant saving in the amount of time and effort which goes into the building of a bata. It has not opened up possibilities of utilizing different resources; it has not altered the form of the bata or its method of construction; and also, importantly, it has not altered the role of the specialist builder. Goodenough has pointed out that the availability of imported timbers and tools lowered the level of skill required for canoe building and thus radically altered the position of the specialist canoe builder vis à vis Gilbertese society, the value of the canoe as a possession, and the exploitation of marine resources generally.[6] The skill of the specialist house builder was of a different nature, lying more in his expert knowledge of the procedures and rituals surrounding the construction of the bata than in his expertise in shaping and erecting the structure. In one area, the lashing of timbers, he did also specialize, but this was not affected by the imported techniques and tools.

12.6.2(a) Timber Preparation

Basically the old procedures are followed, but a steel axe is used in place of the traditional clam shell. Timbers are both axed and sawn to appropriate lengths but no milling facilities have been introduced. Lengths and proportions are still based on the traditional measurement scale related to body proportions described earlier. Traditional curing procedures have also persisted.

12.6.2(b) Stone Boua

The use of stone boua for bata construction may be a form of construction peculiar to Onotoa. On the few other islands briefly visited, they were not seen except on maneaba, but it could be that the same posts may be found at villages where suitable rock existed nearby. The rock used is not uncommon on the atoll islands. On Onotoa the introduction of iron and steel tools has made the task of their extraction considerably easier, various iron oddments being used to scrape channels around the rock slab, and an iron crowbar employed for its final extraction.

The demand for new stone boua is small because of their excellent durability and the relative stability of the island population. Most new bata being constructed which are to have stone boua can use the existing boua from an otherwise dilapidated bata in the possession of the owners. Owners who do not have access to such boua must make the choice of stone or timber posts. The choice is up to the individual.

12.6.2(c) Other Materials

Coconut sennit for lashing, and coconut and pandanus thatch are all produced in the traditional manner.

12.6.3 Bata Constructional Procedure

12.6.3(a) Organisation of Labour

The breakup of the extended utu-based mwenga groups which once occupied the kainga land tracts has altered the make-up of the traditional labour force engaged in bata construction. As these groups became spread along the island, the code for conduct ties between members were weakened, and the size of the groups living in close proximity greatly diminished. The opportunity for co-operative building thus suffered, though it was still possible for distant relatives to return to and stay in the mwenga close to the construction site while the bata was being built and while their help was required. In more recent years employment opportunities on Tarawa, Nauru, and with the shipping lines, havefurther cut into the man-power available to mwenga groups. Nevertheless, it is common practice for males so employed to return to their home island during holiday periods to help with bata construction and other large-scale mwenga undertakings. Persistent enquiries could find no occasion where assistance, paid or otherwise, was obtained outside the close utu group for bata construction. But the smaller size of these groups has brought some intermixing of roles, and males on occasion participate in thatch-making and females in some of the lighter construction work, expecially the fixing of thatch. The construction of the bata thus continues to be a means for realising the co-operative nature of the utu code for conduct, and the concept of the bata remains not only as a place of residence for themwenga (and on occasion their close utu relatives) but also as a place built by the mwenga and their close utu.

12.6.3(b) Process of Construction

For most bata built with an independent floor the process

of construction of the superstructure has remained unaltered, the floor being constructed when the remainder of the bata has been erected. See figure 7. For those with corner posts broken at floor level (see also figure 4) the primary floor structure must of course be erected in conjunction with the corner posts. The addition of a floor should be seen as no more than a minor change to traditional constructional practice for, apart from the setting out of the four corner posts, the primary effort and concern which went into the bata construction, and its significance, lay with the roof and this was in no way altered by the post-contact changes.

The typical floor, illustrated in figure 7, is built in the following manner. Six stone stumps are placed just within the line of the four boua or waka. Upon these are placed two longitudinal pandanus edge beams of round-section, some 150mm in diameter. These are followed by two lateral edge beams of similar cross-section. Additional lateral pandanus joists are placed at approximately 1000-1500mm centres. Upon these are placed 50 x 50mm pandanus battens at approximately 500mm centres. To this structure is lashed the te ba flooring. The flooring is subsequently trimmed and an edge plate lashed to the joists below to give a clean smooth finish.

12.6.3(c) Significance of the Constructional Procedure

It is a possibility that, whilst the bata may have remained in form and structure very similar to the pre-contact version, it has only done so because the availability of materials has not altered. If this is so, it could be that the tried and tested constructional procedures have been retained but their pre-contact significance totally lost or discarded.

A number of bata have been built to house government employ-

ees, who occupy them for short periods of only one or two years, government policy being to move their employees from island to island. The main houses are te ba walled and limestone floored, but bata with raised floors are provided as eating houses, and these are constructed in a manner very similar to the way in which the standard Onotoan bata are built. These bata provide a good test of the suggestion above.

They were built by the government carpenter or hired Onotoan builders, the former having considerable experience in construction methods. The builders thus had no special relationship to each other or to the future occupants, who are in any case constantly changing.

The significance of the bata as a residence constructed by and for the mwenga and their close utu who would eventually inhabit it was thus completely lacking. The bata, which had previously been used as a vehicle for working out the relationships of duty and allegiance between utu members, was suddenly taken out of this context.

As the future inhabitants of these bata were government employees whose material welfare depended upon a system bearing no relation to the pre-contact system, measures taken to ensure the material welfare of bata occupants would have little relevance. Furthermore, since the notion of concern for the welfare of others generally only extended to the limits of one's utu, there was little encouragement to perform actions expressing a concern for future occupants who would undoubtedly belong outside this group.

However, notwithstanding all this, when one of the government carpenters described bata construction, he used one of the government bata as a model. His was a complete description of the correct proportions, the shortening of the eastern tatanga and the ridge height, the opening

in the gable end, and the order of construction - and all said to be aimed at ensuring the welfare of the occupants. In fact it was only the accompanying ritual procedures which were omitted, and these after all are still outlawed by the church. It would appear therefore that for some Onotoans at least the bata still retains some trace of its pre-contact significance. That this significance can exist in connection with a bata constructed by a builder who had no direct interest in the welfare of its future occupants even suggests that the idea exists at a more abstract level than has previously been implied. Moreover in conjunction with a significance which is seen to operate within the context of a specific group of people, i.e. the builder, the occupants, and others of the utu, and a specific bata (in other words a localised significance relating 'family' and 'house'), the same idea could be generalised to operate within the context of the two broader concepts: 'man' and 'building'. This would seem to accord more satisfactorily with the contention that the significance of the bata in this respect is primarily expressive rather than affective. Certainly the concern at one level is definitely with the actual welfare of the bata occupants, but at another level it would also seem to be an expression of the division of the world of beings into 'man' and 'spirit', and an expression of the process whereby they can interact.

1 W. H. Geddes, *North Tabiteuea Report*, 1975.

2 *Ibid.*

3 There were no kainga-owned fish ponds on Onotoa at the time this study was conducted. Onotoans could not say if there were any in pre-contact days.

4 Geddes, *op. cit.*

5 Each employee at the government village on Onotoa is provided with trees from which coconut toddy can be collected.

6 W. H. Goodenough, 'Ecological and Social Change in the Gilbert Islands', *Proceedings of the Ninth Pacific Science Congress*, 111, 1963, pp. 167-169.

chapter 13

CHANGING PATTERNS IN THE USE OF SPACE WITHIN THE MWENGA

13.1 MWENGA INHABITANTS, ECONOMICS AND RESOURCE EXPLOITATION

On the outer islands, mwenga have neither the money to buy imported foodstuffs nor the need to use them except as a supplement to the local diet and as a possible reserve in times of drought. It is more common in practice for imported produce to be in intermittent supply at the co-operative than for local food to be scarce. Though the introduction of imported produce has lessened the urgency of maintaining an adequate and regular supply of local food, the Onotoan is nevertheless involved daily in the pursuit of the same resources as his predecessors in the pre-contact era. Introduced means of securing resources thus represent additional activities, and, though reducing slightly the amount of time spent in traditional activities, they have not replaced them.

13.1.1 Adult Males

A major source of income for individual mwenga groups is the sale of copra to the Co-operative. The coconuts are collected by each mwenga, stored for an appropriate time, split open, and dried before being brought to the Co-operative. As this requires extra storage space around the mwenga, most accordingly have a substantial storage hut of similar construction to the bata except for the addition of te ba walls. The huts are to some extent intended as a measure against theft, but primarily the walls allow the complete internal volume to be used for storage. Any of the open spaces back from the sleeping house can be used for drying. The open space in front of the mwenga would not be used, again partly to prevent theft, but mostly because the drying copra would be a conspicuous display of wealth. Nevertheless Onotoans do not spend a large proportion of their time on this activity because of the harsh climate and the resulting relatively low coconut yield.

On Tabiteuea, whose copra production per head is slightly higher than that of Onotoa,[1] Geddes[2] found that the amount of time spent on copra making and coconut/pandanus collection was low. See Tables 1 and 2.

TABLE 1

	Copra Production	Population	Production/head
Tabiteuea	479	3833	280
Onotoa	141	1831	172

TABLE 2

	12-18F	12-18M	19-30F	19-30M	31-59F	31-59M
Coconut/ Pandanus Collection	1.3	15.6	2.5	12.7	2.2	5.4
Copra Making	1.2	1.4	.8	2.1	1.7	1.7

(Figures show % total time spent in domestic activities over 40-day survey period based on sample of 16 households.)

Of interest also is the roughly equal amount of time spent by both males and females on that part of the copra production sequence which takes place on the mwenga site. As can be seen in Table 2, this is the only domestic activity connected with the exploitation of resources where both males and females play an equal part, and it is the only resource activity which was not already in existence in the pre-contact era. In an activity which lies outside those traditionally associated with male or female roles, both sexes can now evidently co-operate equally without

the males feeling that their traditional status is threatened. The increasing number of Western artifacts and the more widespread ownership of canoes have also contributed to the need for the adult males to spend a larger proportion of their productive time around the mwenga than was traditionally the case. The repair and maintenance of canoes, bicycles, kerosene lamps, sewing machines, and tools have to an extent given the mwenga greater prominence as part of the work domain of the male.

13.1.2 Adult Females

The availabilty of imported produce, especially sugar, rice, tea, and flour, has provided the opportunity to achieve relatively easily some variety in the diet. As a result, the range of indigenous recipes described by Grimble has decreasedand been supplemented by combinations of indigenous and imported produce which are much less laborious in preparation.[3] Those mwenga receiving financial contributions from members of their utu can supplement their indigenous diet with rice and tea. For the majority of the mwenga on Onotoa, however, these products are luxuries reserved for Sundays, visitors, and other special occasions. Meal preparation has remained a relatively simple operation, but time-consuming. Geddes found that this activity for Tabiteuean women consumed 3.7% of their working day for 12 - 18 years old females, 5.9% for 19 - 30 years old females, and 10.3% for 31 - 59 years old females.[4]

The opportunity for selling handicrafts through the Co-operative, whilst not altering this activity, has established it as a more important resource. Women spend a considerable amount of time not only meeting the demands of the mwenga but providing a surplus for sale. Geddes's figures for Tabiteuea show 6.5% and 19.1% of active time devoted to this activity for the 19 - 30 and 31 - 59 years old age-groups respectively.[5]

The loss of adult males to sources of employment away from the outer islands has meant more involvement of adult females in activities connected with the procurement of food resources. The opportunity for females to move more freely about the island has aided this change. Trips to the store, assistance in babai cultivation, coconut, pandanus, and firewood collection, and fishing all take the adult female away from the mwenga and place teenage and elderly women in the position of caring for and supervising young children around the mwenga.

13.1.3 Elderly Males and Females

It is important to realise that many of the 'elderly' are very active and pursue the same activities as the middle-aged. However, when they reach an age and condition where they can no longer undertake such work, their responsibilities have been greatly altered from those which operated within the framework of traditional society. No longer are they treated as the wisest, most experienced, and authoritative members of the community - no longer do they have the responsibility of running the community.

Though their daily activities now must therefore be totally different from what they were in pre-contact days, Onotoans have said that in many ways the elders are beginning to exert their authority again. Instead of resisting present circumstances, the elders are beginning to work within the new society whilst attempting at the same time to preserve those traditions which they see as still relevant. Their lack of education may have prevented them from occupying formal positions within the government, administrative, or commercial hierarchies, but life on the outer islands is still so detached from the central administration that, though lacking formal appointment, their say in island affairs remains significant, particularly with regard to social life within the village, church activities, and

the operation of the Co-operative.

Within the mwenga the role of the unimane and unaine as instructors in the customs, religion, traditions, history, and technologies of Gilbertese culture has been greatly eroded. This is particularly so in relation to religion, ancestral traditions, and the ritualistic aspects of Gilbertese life. Because the predominantly Western-style education children receive at school is still largely irrelevant to life on the outer islands, the responsibility for more practically appropriate teaching lies with the adult population and the Gilbertese receives a continuous education from his elders throughout the greater part of his life.

Much of this instruction takes place within the mwenga, and much of the elders' time is spent there. With increasing age a few Onotoans are eventually forced to spend their entire day almost immobile, and the sleeping house, or an additional bata, becomes their domain (during the day at least) and here they can pass the time undisturbed.

13.1.4 Children and Youth

All children attend primary school on Onotoa, those on the northern islet attending the school at Buraitan. This occupies half their day; for the remainder they play and perform domestic chores. Tidying the mwenga, washing clothes, bringing water from the well, and helping in the collection of coconuts and pandanus are typical tasks, of which the first two, especially the washing of clothes, represent introduced activities.

13.2 SPATIAL DIFFERENTIATION

The administration-imposed layout of sleeping house, eating house, and cooking house introduced a degree of spatial segregation of activities which was not recognised by the

pre-contact Onotoans. As the names imply, certain parts of the mwenga were allocated for the performance of certain activities, and this is still loosely adhered to. The front section of the mwenga, the sleeping house, is generally reserved for recreational purposes, and the remainder as a work area. As an exception to this, the smooth, matted raised floor of the sleeping house is an ideal surface for sewing and often this area is used for that purpose.

The secondary bata, or eating house, commonly incorporates an attic for storage and, allied with this, there is the usual area for craftwork and maintenance of domestic equipment. The area around this bata is used for similar purposes.

The cooking house is used for both food preparation and cooking, and for storage of firewood, and may incorporate an oven if the mwenga possesses one. Occasionally the floor of the eating house is used for food preparation, notably bread-making.

The majority of mwenga have a raised bench (usually some 500-750mm wide by 1000-1500mm long) for the storage of cooking utensils, crockery, and cutlery.

Adult males and females tend to remain apart in the pursuit of their activities unless they are actually undertaking shared tasks. It is still regarded as presumptuous on the part of females, and effeminate on the part of males, to associate too much with the opposite sex during the working day. Traditionally this separation was not expressed through any form of architectural barrier - mere spatial segregation and social detachment were sufficient. The division of mwenga into three separate structures, and the resulting spaces between them, have begun to alter this, the change being particularly noticeable in those mwenga which have a separate cooking house - this area

has definite connotations as a women's domain. But even where a particular function is not associated with a particular space, the new more complex articulation of space within the mwenga site is used as a framework for plotting the social relationships, male to female, and old to young.

13.3 ACTIVITIES

13.3.1 Food Preparation and Meals

Most Gilbertese mwenga have now adopted the Western custom of eating three meals a day. In addition, a visit from a friend or relative, or a catch of fresh fish are always reasons for an additional meal. There is no division of menus, though fresh toddy will always accompany the first meal of the day. Otherwise menus depend on availability of food, which Onotoans tend to cook in large quantities, the same food thus often spanning a number of meals. All food is still cooked over an open fire or in an oven in the traditional manner, even though iron, aluminium, or plastic cooking ware is used to contain it. Some mwenga have iron ovens made from 44-gallon drums. Others retain the traditional in-ground oven or have none at all.

The custom of males and females eating separately and in order is still recognised and practised, though sometimes the small population of the individual mwenga makes this unworkable. Where the family is larger, two to three males and their children and/or grandchildren will eat together, with the adult women eating slightly apart from the group, or following after them. All squat on the floor to eat and no formal etiquette is observed.

13.3.2 Sleeping and Ablutions

The Onotoans still sleep on their kie (sleeping mats) but

have adopted the pillow and mosquito net. The family and clan patterns associated with the weaving of the kie have all but disappeared and the spatial positioning of kie is unimportant. The kie are rolled up in the morning and stored, and the mosquito nets tied up to ceiling level. Except when the occasional communal gathering or night fishing excursion takes place, the Onotoan day finishes soon after sunset when the evening meal has been eaten - usually about eight o'clock. Social relaxation in conjunction with the kerosene lantern and transistor radio can extend activities past the evening meal but still not later than eight or nine o'clock, for the Onotoan day begins around five in the morning.

Hygiene has always been a matter of concern to the European administration and missionaries alike, and Onotoans have been encouraged to install pit latrines/showers within their mwenga. Figure 1, Chapter 11 shows the mwenga possessed of these. Note that there are considerably fewer on the lagoon side of the road. With the water so close, the lagoon shore is used as both bath and lavatory - on the eastern side of the road, the lagoon is often not directly accessible. Metal tubs and buckets, filled with fresh water from the well, permit showering on the mwengá site, and the fresh water ponds are no longer used for this purpose. One or two mwenga at Tanaeang have a fresh water store using water collected from a small corrugated iron roof. The tanks can be kept full for most of the year, and allow reasonable quantities of fresh water to be used without necessitating numerous trips to the distant well. Most mwenga have at least one 44-gallon drum as a water storage unit, filled from the well and used for cooking, for ablutions, and for washing clothes and dishes.

13.4 RITUALISTIC AND SOCIAL USE OF THE MWENGA

Whilst the traditionial mwenga was the physical expression of the social unit which dwelt there, the seat of the family, it was so undifferentiated spatially that it gave little indication as to the nature of the relationships between the members of that group. It was used, however, through its spatial orientation, to express the relationship between its occupants and the cosmos. The rituals which accompanied the major events in the Gilbertese life continuum (i.e. those occasions of such import that man and the cosmos were seen to be somehow connected) were carried out using the spatial divisions of the mwenga as a physical model of the larger universe. The events were birth, death, male or female initiation, marriage (on some islands), and the occasions of important harvests. The public nature of these rituals brought them to the attention of Christian missionaries and they were outlawed. On the occasions of births, marriages, and deaths there were Christian rituals to replace the pagan versions. On Onotoa the occasion of the pandanus fruitification has ceased to be marked by ceremony of any sort. The male transition from boyhood to warriorhood has lost its import, but the female transition remains a meaningful occasion.

The central component of all modern social ceremony is the feast - this is true of both domestic and public ceremony. With the decay of the clan, the ceremonies accompanying a birth, initiation, or marriage all lie within the domestic realm and such ceremonies are held at the mwenga by the utu of the person/s for whom the ceremony is performed.

Apart from the people central to the occasion, the male utu elders are the most significant guests present. Throughout the ceremony, which may last a number of days, they occupy the formal sleeping house which thus takes on another

function. In a manner similar to their seating in the maneaba, the elders position themselves around the perimeter of this building, facing inwards. A birth, two weddings, and one female initiation were attended during fieldwork on Onotoa. On each occasion there were some 20 to 30 male utu elders present. For such numbers the large open space of the sleeping house, uninterrupted along its perimeter by cross circulation routes and freely accessible on all sides, defines and separates the gathering of elders from the remainder of the guests. The equi-potential displacement of the seating along the perimeter of the floor is in accordance with the equality of status of the elders. The principal/s of all ceremonies attended were invariably seated at the centre of the eastern side, the ancient orientation of most ritual performances. This even applied to the female initiate, who traditionally occupied the central western point of the bata. However, these occasions are now more celebration than rite, and, in line with the only explanation which could be elicited, it would appear that the eastern side being more important vis à vis the west becomes the correct position for the initiate, bride and groom, etc. to sit. The special position sometimes attributed to the northern side is associated only with the maneaba and clan status and hence is not applicable to the bata or to ceremonies of this type.

Food is served in the traditional manner, laid out in the centre of the bata in front of the elders, who eat first. The other guests eat informally around the mwenga, and in the eating house if there is one. These guests, the remainder of the entire complement of the utu concerned, may number up to 50 or more. Throughout the ceremony both youths and the middle-aged are involved in the preparation of food, which may encompass a number of meals. The remainder of the mwenga which they occupy thus becomes sharply distinguished from the sleeping house occupied by the elders and is a scene of constant and intense activity

until the completion of the event. Meals are prepared, fish, turtles, and pigs are killed and cleaned, food is cooked, utensils and crockery are washed, and in between there is constant informal socializing.

The openness of the principal bata is thus particularly suited to these occasions. Whilst it allows the company of unimane to be formally distinguished from the remainder of the participants, it nonetheless achieves maximum contact between all the participants for the duration of the ceremony. On one occasion an attempt to use one of the European-style pastor's bungalows, even though for a less formal social gathering, was noticeably unsuccessful in this regard because of the separation it created between the unimane inside and the remainder of the guests outside.

Informal gatherings such as the above are held more commonly than are the formal ceremonies so far described - usually on the arrival or departure of an important family member or the visit of a relative. They also centre on a feast, but less time is devoted to formal speeches.

On the occasion of the odd visit of an important person, an officer from the Co-operative or visiting pastor, he will also be fed and entertained within the bata. This is markedly different from the daily casual visits of friends where the eating house would more normally be used.

The functions which once kept Onotoans within and around the single multi-use bata which stood on pre-contact mwenga sites have been moved to the eating and cooking houses, leaving the sleeping house rarely occupied during the day.

Apart from its function as a sleeping house, therefore, the principal bata can also be seen as the most formal element within the collection of structures which make up the mwenga. It is for this reason that it continues

to be so carefully constructed and well maintained, the symbolic centre of the household.

1 *Government Census*, Gilbert and Ellice Islands Colony, Tarawa, 1973.

2 W. H. Geddes, *North Tabiteuea Report*, 1975.

3 A. F. Grimble, 'The Migrations of a Pandanus People', 1933-4.

4 Geddes, *op. cit.*

5 *Ibid.*

chapter 14

THE MANEABA UNDER CHANGE

14.1 INTRODUCTION

The maneaba and the uma-in-mane (the kainga meeting house) were the two public structures built by the pre-contact Gilbertese, of which the maneaba was the most significant. Whilst the uma-in-mane have disappeared along with the kainga themselves, the maneaba are still in existence and are still used. Since the arrival of the Europeans, a number of other public structures, including churches and club houses, have been erected, which because of the similar public nature of their use will also be discussed in this chapter.

14.2 THE MANEABA AND ITS SOCIAL SIGNIFICANCE

Until the repeal of many of the draconic Island Regulations in the 1940's, the maneaba almost ceased to function. Though varying conditions prevailed on the different islands, use of the maneaba was generally discouraged by the churches because of the pagan ceremonies held there. Their only use appeared to be as a quiet retreat for the elders, and for large meetings with touring government officials. In some areas the churches built maneaba for their own use, in order to avoid assemblies in the traditional structures, and these served as the locale for large-scale public meetings.

The disuse of the maneaba is not surprising since the whole basis of maneaba organisation (and village organisation) was the boti. The boti, as a working group, had effectively ceased to exist following the forced disintegration of the kainga. The social ties uniting the village had been broken. In the move to find new mwenga sites along the lagoon, the populations of maneaba districts intermingled. Thus, even though boti affiliations might have been remembered, they would not necessarily have been applicable in the maneaba of the districts to which the inhabitants had moved.

On Onotoa the majority of the population had become Protestant. Sabatier notes that of a population of some 1650 there were rarely more than 300 Catholics.[1] This common religious affiliation served to unite the population, village by village, as maneaba affiliation had previously done. But, further, the common brotherhood preached by Christianity linked the village populations as single units subdivided only into family units (the mwenga), with no intermediate groups. This division was reinforced by government attitude, which again recognised only the mwenga, and the village as a whole, as administrative units.

In this period of radical change, it appears that the maneaba was only used for sporadic dancing ceremonies. In many villages, even this was frowned upon by government and missionaries alike because of the riotous and paganistic fervour with which the ceremonies were undertaken.

Unfortunately a more accurate documentation of the use of the maneaba during the period 1900 - 1950 cannot be supplied. Gaining access to London Missionary Society records and Government Gazettes was outside the financial means of this project. It is likely that the extent to which traditional life continued alongside the new religion and other Western practices varied considerably from village to village and island to island, depending upon the attitudes of missionaries and government officials on the one hand, and the attitude of the Gilbertese on the other.

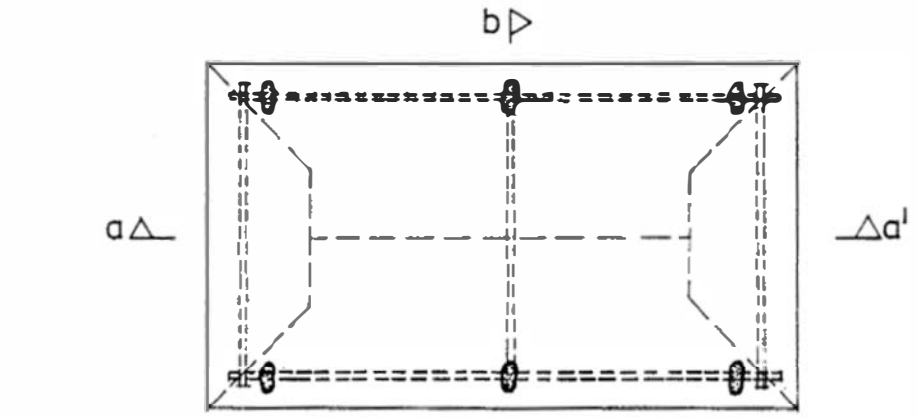
Over the years and particularly since the Second World War, as the Gilbertese have gradually taken responsibility for their own affairs, the maneaba has again become a focus of Gilbertese social life. The most significant aspect of this revival is the way that the maneaba has maintained its symbolic force as the structure in which public social gatherings should be held. On the northern islet of Onotoa, for example, the two traditional maneaba of Tanaeang and

Buariki still stand and are kept in good repair. But in addition there are women's club maneaba at Temao, Buraitan, Tanaeang, and Te Kawa, church maneaba at Kotene Mission Station and at Te Kawa, a school maneaba at Tamao, a government workers' maneaba at Buraitan, and an island maneaba, also at Buraitan.

The majority of these maneaba are identical in construction with the traditional uma-in-mane. See figure 1. They vary in size according to the populations using them. The smallest, used by the women's clubs, are no more than eight to ten metres (5nga) long. The larger, including the school and church maneaba, have lines of both bouriki and boutabo and are true maneaba.

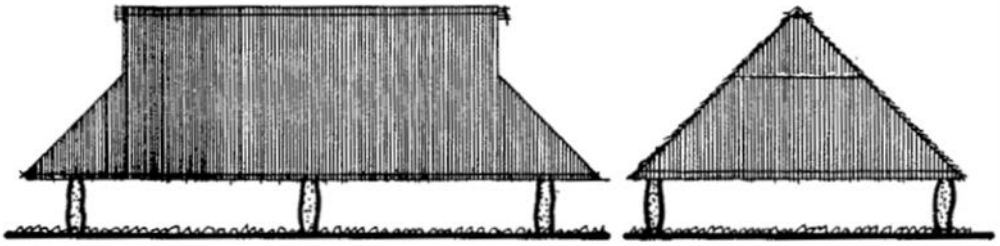
The use of the common term 'maneaba' for all these structures is important. Certain characteristic traditional behaviour patterns have been preserved in slightly adapted form within the new maneaba, even though the buildings have been constructed in conjunction with functions that had no place in the traditional culture. These are discussed in the following sections. But first it should be remembered that it was in the maneaba that the Gilbert communities were originally organised following the Samoan invasions. The central role of the building in these legends testifies to the significance of the maneaba in the Gilbertese society. The building of similar structures (and the use of the term 'maneaba' to name them) for the purpose of the assembly of various community groups serves to express the unity of those groups and the egalitarian nature of the relationship of their members. But even more so, in a manner otherwise difficult to express, it implies that all the new social organisations, whilst originally imported into Gilbertese society, have now become "Gilbertese" rather than foreign in spirit.

With the schools, the women's clubs, and the churches,



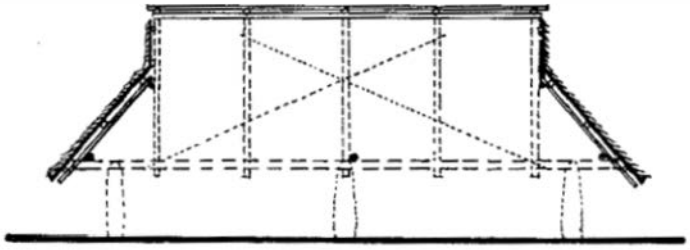
GROUND PLAN

b' b

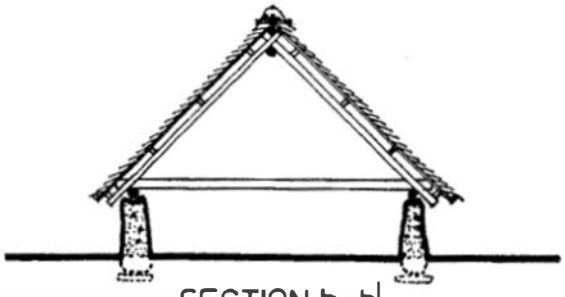


SIDE ELEVATION

END ELEVATION



SECTION a-a'



SECTION b-b'

UMA-NI-MANE: CONSTRUCTION DETAILS

FIGURE 1

the maneaba served in no way to further differentiate the social groups who used them, as they did with traditional Gilbertese society and its division into boti groupings. The churches and schools are hierarchically structured social groups so that it is unlikely that the new maneaba would in any way be used to express such relationships. The women's clubs are single social units and hence have no divisions to express.

Of the boti Maude wrote in 1963 that they were by then "largely discarded and forgotten... shorn of their religious, ceremonial, political, judicial, administrative and economic functions and...no longer a regulator of marriage or of residence".[2] He notes however an exception, the survival of the custom known as Kaeninima. Briefly, this custom requires that, should an individual visit another island where his own (or an allied) boti is represented and he can prove his membership of the same, then he will be guaranteed support for the entire duration of his visit, and supplies for his return home. Boti membership was ascertained by the ability of the visitor to name his boti ancestors and to trace his full descent line from those ancestors down to himself. Maude does not say whether he is describing a 1963 practice or the traditional mode of proving boti membership. He notes that Grimble described a slightly different method, where the claimant merely worked backwards through his genealogy until a common ancestor was arrived at.[3] This is a very much less exacting formula than that described by Maude. Finally Lundsgaarde states that boti membership had no longer to be "contested by complicated genealogical proofs", but it had become sufficient to merely illustrate kin relationship to an existing boti member.[4] It would appear from these reports that the boti system was still to some extent operational, despite European attempts (conscious or otherwise) to destroy it. Certainly, as a determinant of residential affiliation and choice of marriage partner, the boti has long since been extinct.

But while it seems odd therefore that it continued to exist, it is still possible to find reasons for its continuing presence.

Firstly the maneaba are again being used, and, in the traditional maneaba at least, it can be imagined that it would run against the grain for individuals to seat themselves haphazardly around the structure. For hundreds of years seating allocations had been precisely prescribed, and, with some reshuffling and relaxation of the formal procedures for establishing boti membership, it would be possible for the practice to continue. This explanation would marry with Lundsgaarde's description of individuals seating themselves in boti locations "defined in accordance with ancient principles no longer remembered beyond the commonplace assertion that 'this is our custom'".[5] But it is possible to go further than this. As the maneaba are again being used, their maintenance must also continue. The various tasks connected with the repair and rethatching of the maneaba were traditionally divided amongst the boti, and the ceremonial feast held at the completion of the thatching of the roof was itself a symbolic re-enactment of the order of incorporation, and of the rights and responsibilities of the boti associated with the structure. The continuing use of the maneaba thus in itself encouraged the continuing recognition of boti allegiances and inter-relationships.

14.2.1 The Boti on Onotoa

During fieldwork at Tanaeang, Onotoa, the village maneaba was never used for any ceremonies or debates. Over a 12-month period it was used only twice for the screening of films sent by the church. Instead, the church/village maneaba at Te Kawa was used and this maneaba, being a post-contact building, has no seating divisions. Individuals from Te Kawa tended to sit around the north and north-eastern sides of the building, and those from Tanaeang

on the south-east and southern sides, but that was the full extent of division. Nevertheless, the inaki divisions of Tokamouea at Tanaeang were all well remembered by the unimane of Tanaeang and Te Kawa and there were plans for the imminent rethatching of the building. According to the unimane, the tasks would be divided as was customary amongst the boti and a full ceremonial feast would be held upon its completion. This could lead to the re-establishment of the Tanaeang maneaba as the focus of community life for the two villages of Tanaeang and Te Kawa. However, the Raranimatang maneaba at Buariki has only recently been extensively repaired, and during fieldwork it was only used twice, for ceremonial dancing celebrations where all the island was present. The reason for this lack of use is simply that the maneaba is too large for the current population of Buariki, who use their church maneaba for internal meetings and ceremonies. The villages are all intensely proud of their maneaba, but one the size of Raranimatang at Buariki can only be used for gatherings which involve the island population as a whole. As a result, the relevance of boti divisions within these communities is minor, though they are remembered and now preserved in writing along with the other traditions associated with the building.

One large village assembly and a number of smaller informal gatherings were attended at the southernmost village of Tabuarorae. At the larger assembly, boti seating places were used, though roughly, as only three-quarters of the pre-contact number of inaki were represented. Participants thus positioned themselves relative to each other according to their boti relationships, but spread evenly around the building. Exact inaki positions relative to the building were not adhered to. It is possible to see this as a contemporary re-arrangement of inaki positions (it was after all customary for inaki positions to shuffle as boti fused, split, or became extinct), but though possible it is never-

theless unlikely to be the case. The unimane of Tabuarorae continued to name all the pre-contact boti and described their exact positions within the maneaba. They did not see those boti not at present represented as being extinct, but rather envisaged the boti divisions as those which existed at the time of contact, and did not accept it as their continuing task to reallocate inaki divisions according to the current population make-up of the village. It was sufficient to take up a seating place in approximately the correct position when the maneaba community was meeting as a whole. In this manner, the behaviour of the Tabuarorae population seems to correspond to that described by Lundsgaarde as having little more than the force of custom.

With reference to the Kaeninima custom, the responsibility for private visitors, on Onotoa at least, is now the province of their utu, rather than the boti. On the other hand there are now a number of official, semi-official, and independent visitors to the islands. These are always welcomed in the maneaba and the whole village assumes responsibility for the visitor in the same manner as the boti once did.

14.2.2 Summary

It is only through the maneaba that the boti appears to have any contemporary relevance. As long as the traditional maneaba continue to be preserved, and because the boti system was intimately linked with the very raison d'être of these buildings, the concept of the boti is likely to retain some significance for the Gilbertese, even if this significance is a mere shadow of that which the boti system held for pre-contact communities. Nevertheless the maneaba continues in its role as a physical symbol and as a spatial manifestation of social units within the village and of the island as a whole. These social units still dictate the formal internal spatial division of the building in

the case of full island gatherings, where each village has a specific area allotted it. Though not otherwise functioning in the traditional manner, the continuing use of the maneaba, and indeed its adoption by non-traditional groups within the community, illustrate the manner in which the building continues to express the unity of the group who use it and the applicability of the Gilbertese spirit and ideals to their present day activities.

14.3 THE MANEABA AND ITS MAGICO-RELIGIOUS SIGNIFICANCE

Most of the data describing the magico-religious significance of the maneaba in the pre-contact era were collected during fieldwork, and at the same time information extracted from the literature was confirmed by the unimane on Onotoa. This knowledge, though it may still be remembered, has lost most of its status as working knowledge in day-to-day life - basically as a result of the displacement of the traditional ancestor/spirit religion by Christianity. The role of the maneaba as the tabernacle of the most prominent deities and semi-deities has thus been largely nullified and in place of the maneaba now stands the Christian church. For the purpose of worship, the latter building is used every Sunday of the year, the former not at all.

Nevertheless, while the traditional maneaba are still standing, they remain the home of the Gilbertese deities and are treated with considerable respect because of this. At both Buariki and Tanaeang special permission had to be sought from the unimane to take measurements of the buildings. The maneaba and the marae around it are strictly out of bounds to all except the unimane, and any unseemly behaviour by anyone in or around the building would still be regarded as certain to render the offender maraia (accursed), though the civil penalities for such behaviour are today considerably more lenient that in pre-Christian days.

The situation is therefore a strange one, made the more complex by contemporary Gilbertese attitudes. Two of the southern villages, Aiaki and Otoae, have both replaced their maneaba with structures built from imported materials - facsimile maneaba in timber and corrugated iron. The principal reasons for doing so were expected large-scale savings in maintenance, and, in a period of infatuation with Western technology following the war, the status associated with such building materials. In 1976 an octagonal island maneaba in reinforced concrete and with galvanised roof sheeting was built at Buraitan. (It was partially destroyed some months after completion when a coconut tree fell across one section.) These structures were built by experienced Western-trained carpenters and, as particularly evidenced by the octagonal building, had physically little in common with their traditional predecessors even though they were still called maneaba.

As the old religion was phased out, publicly at least, then the place of the maneaba as a hall of deities and ancestors, and as a place of public worhsip, was also phased out. The building had primarily performed this role via the naming and spatial juxtaposition of the elements from which it was constructed, but in a general sense the whole building was regarded as the home of these spirits, who were thought to have inhabited it since the building was first constructed. In its physical detail, especially its proportioning, each maneaba bore the marks of its particular ancestor/spirit founder. And the construction of a traditional maneaba was accompanied through its every stage by ritual appeals to the gods for their assistance, protection, and blessing.

With the passing of the old religion it would therefore not only have been impossible to construct a traditional maneaba in the customary manner but also rather pointless to do so. The rituals could no longer have been performed,

and the various physical elements of the building which once made symbolic reference to the gods would have lost their relevance.

The modern maneaba, with both corrugated sheet metal roofs and internal timber frames reminiscent of traditional forms, stood as buildings which were patently maneaba in appearance, could be used in a similar way to the traditional buildings, and yet were suitably devoid of symbolic reference to the pagan religion and could be constructed without recourse to pagan ritual practices.

The octagonal building at Buraitan is interesting because of the manner in which it illustrates the artificiality of the relationship between built form and the meaning it carried. Despite the long tradition of the maneaba form and its prominence within the built environment, this structure which bears no physical resemblance to a traditional maneaba is nevertheless known and used as one. It is primarily a maneaba because the Onotoans have deemed it so, rather than because of some property of the building itself: its form for example. The continuing relevance ofthe maneaba is as a meeting hall, in this case predominantly for the assembly of the various village communities. Such a building symbolizes the common purpose, the dedication, and the affluence of the group which constructed it. The traditional maneaba carried this meaning; the octagonal building at Buraitan, despite its physical appearance, carries the same, and consequently the term maneaba has been used to describe it. Thus whilst the social significance of the maneaba remains, albeit in altered form, the magico-religious significance which the traditional structures held has totally disappeared from such a maneaba as the one at Buraitan.

During fieldwork a number of Onotoans expressed some dissatisfaction at this state of affairs, feeling that too much

of the traditional culture had been cast aside in the comparatively rapid process of Westernisation. These included not only the unimane who understandably might feel some regret at the disappearance of traditional customs but also some of the younger generation, including 'educated' Onotoans. The dissatisfaction was not however connected with the disappearance of magico-religious aspects from contemporary buildings and building practice. It was rather a regret at the lack of craft expertise which went into the construction of the new maneaba, and a regret that many of their fellows were apparently unperturbed by the use of foreign materials in place of the traditional materials and forms which composed their built environment. The intimate connection between craft activity and ritual practice, particularly in such a public activity as building construction, presented the former when the latter was outlawed as pagan. There was concern that much of the traditional Gilbertese building craft had already been lost and that, as the remaining unimane who possessed the skills gradually died, it could disappear altogether. This concern spreads to other aspects of Gilbertese culture and is appreciated throughout the islands. Whilst there are moves by government, private enterprise, and educators to revitalise craft activities, this is being attempted outside the religious connotations which they traditionally held. It may therefore be that future maneaba construction will be much more orientated to Gilbertese building skills and procedures than was, for example, the Buraitan maneaba. It is equally likely that the maneaba will no longer remain distinctly religious buildings - with the exception of those traditional structures which continue to be maintained.

14.5 CHANGING PATTERNS IN THE USE OF SPACE WITHIN THE MANEABA

The traditional maneaba was seen to be divided into three basic areas - (a) the marae which surrounded the building,

(b) aan-ni-boti, the perimeter band within the building in which the boti members sat; and (c) nuka-n-te-maneaba, the central ceremonial space.

The marae was sacred ground, and it was suggested that the maneaba might have acquired their status as sanctuaries from this quality of the sites on which they were built - that the sites might have in fact been sanctuaries before the maneaba were even erected.

The marae of the traditional maneaba on Onotoa are still regarded in this manner; one is even fenced to keep dogs away. The villagers stay off the sites unless they are deliberately visiting the building, and children are prevented from playing there. The metal-roofed structures at Otoae and Aiaki are treated similarly, despite their being non-traditional buildings. The Buaritan maneaba, on the other hand, is a non-traditional site. Both the site and the building itself are in no sense treated as special preserves, and are, for example, frequently used by children as a playground. This is not to say that the building is mistreated - but it demands no more respect than that normally due to a prestigious public building.

Of the internal divisions of the maneaba, Lundsgaarde notes with interest that the central ceremonial space is still distinguished from the perimeter bank of boti seating places, even when seating pressures on occasion would suggest that the separation be relaxed, and the seating places be allowed to expand inwards.[6] The same was observed to be true on Onotoa. Indeed the spatial principle of the perimeter seating at Gilbertese ceremonial occasions holds for all building types, not just for the traditional maneaba. Meetings in the church's and women's club maneaba, utu ceremonies in the bata, and even government workers' botaki in the local courtroom conform with this pattern. It is a principle basic to Gilbertese ceremony; it places all

participants in equivalent proximity to the central area which Lundsgaarde describes as being conceptualised as a "kind of neutral social space".[7] Individual speakers move into it when addressing a gathering, food offerings are placed there, and dancing is held there, as is formal feasting on occasions. The latter is usually confined to the perimeter space - when there are only such a number of participants as can seat themselves in a single row around the building. When there are more participants or when only certain select members of the total gathering are feasting, then the central space is used. This arrangement is in marked contrast to that adopted at church or court assemblies. Here participants are seated in rows facing in one direction, towards an elevated focal point associated with a person or persons of greater status that the participants. The maneaba-type seating, on the other hand, is equivalent and thus in keeping with basic Gilbertese social principles. Likewise it is hierarchically structured from the front rows bordering on the central space back to the periphery in accord with social status - the unimane and rorobuaka at the front, younger people, women, and children at the rear.

A second usage pattern which has been adopted from the traditional maneaba is the positioning of visitors' entry point and seating place on the western side of the building. Although on Onotoa the boti seating places are rarely or never used, and a visitor could therefore sit anywhere without occupying a seating place to which he was not entitled, the Onotoans have maintained the old pattern and there is a point in this. The visitor without clan was distinguished from those who were members of a local clan by this custom, and the distinction pointed up the fact that the visitor, being kainga-less, required support from the community as a whole. On Onotoa this was done either through offering the visitor material support, or, as was the case at Tanaeang, by actually allocating a permanent

landtract (also called a kainga though uninhabited for most part) to the visitor's boti, so that he could support himself. The visitor to Onotoa today still needs the same support and, whilst the other boti might have lost much of their significance, the western seating position nevertheless has been retained, standing as it had always done, not as just another boti division, but rather as a distinguishing symbol marking the visitor as distinct from the community as a whole, and henceunderlining the relationship which should exist between them.

Traditionally, even those visitors to the island who could claim membership of a local boti first entered the maneaba from the western side and sat in that boti until they had established their bona fides to the local community. The action was seen as a mark of respect paid by the visitor to the community, and it is for this reason too that, despite the disappearance of the other inaki, this one has been retained. All visitors, official or not, should observe this custom and Lundsgaarde notes an occasion on which the islanders used it to political advantage. [8]

14.4 THE MANEABA, POLITICS AND STATUS

It was seen that traditionally the maneaba was, in one of its many functions, a hall of debate. Spatially the internal divisions served to identify the various political groups within the community and their spokesmen - that is, the boti and the unimane who headed them. With the practical disappearance of the boti, this aspect of the political significance of the maneaba has all but gone. However, at another level, the building itself was the scene of political decision-making; as the house of the deities and the seat of the ancestral founders of the community, it was the place where the ongoing affairs of the community could be decided in their presence, and with their approval. As it was only the unimane who participated

in political decision-making, the unimane, politics, and the maneaba were thus intimately connected. The structure of politics changed drastically with the advent of British government. These changes have already been briefly discussed - the point here is that partly as a result of these changes and partly for other reasons both the maneaba and the unimane were in general removed from their central position in Gilbertese life, and in particular were largely dissociated from political affairs.

With the gradual return of political power to the Gilbertese contemporary island politics have become a complicated affair. Formal authority rests with the Island Executive Officer, the Magistrate, and the Island Council. From the evidence of Lundsgaarde,[9] and in particular Macdonald,[10] real political power is not always in the hands of these office bearers, and the Island Council especially has faced repeated difficulties in establishing itself as the proper island governmental body. Colony law aside, local island affairs have instead been largely controlled by the unimane and the church. It was noted earlier too that the unimane had seen the Co-operative as a source of real power in the community and had involved themselves there rather than with the Island Council. It is noteworthy then that, on Onotoa at least, whilst the Island Court and Island Council sit at the Court in the government village, all other meetings on the island are held in the maneaba. Meetings convened by the church to discuss island affairs are held in their maneaba; meetings of the local Co-operative branches are held in the local village maneaba or women's club maneaba, as are meetings held to discuss decisions made at Island Council.

The principal orators at all these meetings are the unimane. In fact, ever since the Gilbertese recovered from the initial disruptions of the Western contact, the unimane and the maneaba have remained at the centre of island politics.

This is despite government attempts to bring about a shift in both the personnel responsible for local politics and, incidentally, in the location of their meetings. As a final confirmation of the perceived link between politics and the maneaba building, there were plans afoot on Onotoa that when the island maneaba at Buraitan is repaired, Island Council meetings will be held there, with only the Court hearings still sited in the government building.

1 E. Sabatier, *Sous L'Equateur du Pacific: Les Iles Gilbert et la Mission Catholique*, 1939, p. 255.

2 H. E. Maude, *The Evolution of the Gilbertese Boti*, p. 51.

3 *Ibid.*, p. 52.

4 H. P. Lundsgaarde, 'Post-contact Changes in Gilbertese Maneaba Organisation', *The Changing Pacific*, pp. 67-79.

5 *Ibid.*, p. 72.

6 Lundsgaarde, *op. cit.*, p. 71.

7 *Ibid.* p. 73.

8 *Ibid.*

9 *Ibid.*

10 B. Macdonald, 'Local Government in the Gilbert and Ellice Islands, 1892-1969', *Journal of Administration Overseas*, 11, 1972.

chapter 15

CONCLUDING REMARKS

15.1 INTRODUCTORY REMARKS

The analysis of the contemporary Gilbertese maneaba completes the main body of the thesis. This concluding chapter firstly presents a summary of the analysis of the Gilbertese built form/culture relationship as it has been presented in Chapters 2 - 14, and then details the manner in which this analysis has achieved the primary objective outlined for the thesis.

To complete the work, some comment is also made on two points concerning the build form/culture relationship which the general analysis has exposed. The first of thee points is concerned with the role of built form in the cultural process, and the second with the symbolic content of built form.

15.2 SUMMARY OF THE GENERAL ANALYSIS OF THE BUILT FORM/CULTURE RELATIONSHIP

Research conducted during fieldwork on Onotoa was directed towards the collection of data concerning the various cultural constructs developed by the Gilbertese to describe the manner in which they create and use their built environment.. Data gleaned from various Gilbertese oral traditions, from historical accounts of the first European contact with the islanders, from the ethnological literature, and from traditional sites and structures still in existence were used to generate a reconstruction of the pre-contact conscious model of the creation and use of built form.

15.2.1 The Pre-Contact Model

15.2.1(a) Island Settlement Pattern

Around 1400 AD, the inhabitants of the southern Gilbert Islands were overthrown by Samoan invaders, principally

members of a large clan known as Karongoa, and within a few generations of their takeover they had restructured Gilbertese society with themselves as the paramount group.

Both invaders and invaded were possessed of similar patrilineal descent structures, and the groups so divided were known by the name of the original deity or ancestor from whom they were descended, e.g. Karongoa.

Such groupings extend through space and time to form large conceptual social units membership of which includes those long since dead or territorially far removed from one another.

The actualization of this conceptual unit was the patrilineal lineage, which included all those descendants of an eldest living male who maintained social relations.

The invading Karongoan lineages found similar groups scattered along the islands they conquered, and were responsible for uniting those lineages into larger territorial groups approximating what we would call villages.

Each of the lineages, called boti, within the community was allocated a particular land tract on the island known as a kainga, and a particular seating place (inaki) within the community meeting house, the maneaba.

After the Karongoa invasion, most of the southern Gilbert Islands were settled in this manner, Onotoa for example, having seven such villages, each with its own maneaba and collection of kainga. To this extent, the arrangement of Gilbertese island settlement pattern was based primarily upon the social structure of its population.

When village populations expanded to the point where their functioning as co-operative units became difficult, new villages were formed. Social structure nonetheless remained the organizing principle. The major boti would split, with the departing faction building a new maneaba and allocating kainga and inaki to the groups who joined them.

Apart from the division of the islands into a number of independent maneaba-based communities, the other significant feature of island settlement pattern was the manner in which this settlement was concentrated along the lagoon shoreline. The majority of the islands run north-south in a quarter-moon shape enclosing a lagoon to the west and exposed to the windward eastern reef shoreline. This eastern shoreline is in many ways climatically superior, but the Gilbertese never resided there. There was more than one reason for this. In practical terms there was a preference for the lagoon shore because this was the point of arrival of visitors, hostile or otherwise, both from other villages and other islands, and the point of departure for fishing excursions or travel. So it was logical for the maneaba to be located on this shore, and for the kainga community to concentrate there. But this preference for the western side was so strong that even when kainga land holdings became over-populated, they would go to the length of establishing secondary kainga (kawa) or even new villages, in order to avoid a population spread to the eastern shore. When one remembers that in most cases the distance from east to west across the island was less than the length of the villages themselves, this reticence on the part of the Gilbertese to inhabit the eastern zone of the island becomes very obvious. The explanation for it is found in Gilbertese spiritual practice.

The eastern zone of their islands holds a special significance for the Gilbertese. They were a group who had migrated from the west, probably originally down through south-east Asia and out into the Pacific. They worshipped a god Auriaria (Au-of-the-rising-sun) who inhabited unknown land to the east, in which direction their migrations had taken them.

In this sense alone, the eastern shoreline was a special place reserved by the Gilbertese for the observation of spiritual practices of all kinds. Being looked upon as a sacred place endowed with a special significance, it was certainly not a place to live.

Moreover, the eastern beach was also associated with death, for it was along this beach that souls of the departed would journey on the way to their final resting place in the mythical land, Matang.

Despite the practical advantages , both climatic and logistic, of extending habitation to the eastern side of the island, it was clear that for the Gilbertese the various cultural constructs relating to spiritual practice were sufficient to override such pragmatism.

15.2.1(b) Community Settlement Pattern

Each of the maneaba communities was seen to be composed of sites for a maneaba, kainga, and kawa, and individually owned agricultural holdings known as buakonikai. The functioning of the boti system in relation to the creation and basic arrangement of each spatial community has already been summarized.

As a system, it was primarily involved with the regulation of social affairs. For example, it was a basis for the choice of marriage partners; it decided residential

affiliation; it resulted in the formation of co-operating social groups; and, in combination with the age-grade system, it was a regulator of community affairs. Since the kainga and the maneaba were the most prominent features of community settlement pattern, the boti system played a dominant role in patterning the internal layout of each community. The historical detail collected in the text with reference to the foundation of the first maneaba in the southern Gilberts, Tabontebike on Beru Island, and with reference to the two principal maneaba communities on Onotoa, Tanneang, and Buariki, present clear evidence of this role. Each case is an example of the transformation of the social system (boti)/built environment (maneaba and member kainga) model into a social and physical reality, both in terms of the initial formulation of that reality, and in terms of its continuing evolution.

There was, however, a second social system within Gilbertese society, the utu, and this system also played its part in structuring community settlement pattern.

The utu was the Gilbertese model of consanguineal relationships, and is described in detail in the text. It approximates the Western term 'family'. Apart from codifying the familial membership and behaviour, the utu operated as a property-inheritance structure.

All land in the southern Gilbert Islands, with the exception of the maneaba and its marae, was individually owned. Kainga and kawa were owned by the respective heads of those groups, but not by virtue of their leadership of the lineage resident there. It was simply that the lineage head inherited that property through his utu, and the utu which owned the kainga would always also head that kainga. All other residents on any one kainga tract, though members of the one lineage,

were of course members of separate utu and each would own, or eventually own, land inherited through his or her utu.

These lands were known as buakonikai, or bush holdings. They were not residential sites, but were the principal agricultural holdings - sources of coconut, pandanus, berries, babai, and materials for building and craft.

The boti and utu systems were seen to be connected principally through the various constructs relating to marriage.

Each boti was an exogamous group, and this brought with it a tendency for boti land holdings, both the kainga itself and also the proximal buakonikai holdings of the lineage members, to be dispersed through the marriage of its female members.

The daughters and grand-daughters of women who married into other boti became potential spouses for men of the original boti, and through marriage boti land holdings could be re-consolidated. On the other hand, the dispersal of utu members throughout the various boti mediated against warfare between them, tending to keep the power and land-holdings of each boti in check.

In combination with a number of minor property exchange and inheritance structures detailed in the text, the boti and utu systems provided a framework upon which the intricate and complex arrangement of community residential and bush land-holding was patterned. With marriages frequently arranged, individuals and lineage groups manipulated this model to their advantage.

Community settlement pattern in the southern Gilbert Islands was also seen to be closely related to the cultural models of political authority and status allocation.

Concepts of power, authority, and status at all levels of Gilbertese society were structured in terms of an age-grade system. Power, authority, and status were allocated on the basis of seniority, with seniority being a formally classified notion. Thus males, for example, progressed through a series of status grades from bachelor (15 - 30 years) to warrior (30 to 50 years) and finally to male elder (50 years plus).

Within each boti, the senior male elders presided over the remaining boti complement, all of whom were of lower status.

Across the community, however, the heads of each boti were of equal status, and governed the community as, in effect, a council of elders, meeting in the maneaba.

Though each community had its nominal chief (nea), who was the head of the principal founding boti in the community (usually the Karongoa boti), decisions were supposedly made by consensus.

The age-grade system was thus seen to discourage non-conformity, and the rise to affluence or independence on the part of an individual or group, and the ideals of conformity and equality, in terms of the various boti within the community, were in part expressed in the pattern of community settlement.

Kainga were allocated in roughly equal portions, running in strips from lagoon shore to ocean in parallel bands. This represents a non-stratified pattern of settlement, and no kainga is seen as having a position of prominence with regard to other kainga in the community.

Such a pattern was seen to stand in marked contrast to the commonly occurring settlement pattern of stratified communities, where clan territories and dwellings are

clustered around, for example, a principal chief's hut and/or important ceremonial structure.

In general, the Gilbertese avoided conspicuous display of wealth or independence, and the various boti avoided intensive build-up of kainga territory in one location, or co-operated with other boti to prevent any boti doing so, should they attempt it. Balance of power and territory was important, and settlement pattern was a prominent expression of this balance.

15.2.1(c) Kainga Settlement Pattern

Within Gilbertese society the boti was the largest group whose members were in daily social contact. The maneaba community was a more loosely knit grouping where social interaction took place only on isolated occasions.

The boti system was seen to operate as the basis for determining residential location, and the individual was not free to live where he chose. In theory, an individual could live on any of the territories of the boti to which he belonged or was associated with through utu ties, or he could live on his own buakonikai holding/s. In fact cultural pressures of various kinds detailed in the main text restricted this choice, and preferred residence was on one's ancestral kainga. Women, upon their marriage, joined the boti of their spouse.

Within any given kainga, the total population did not reside en masse, but in discrete groupings known as mwenga. Each mwenga was a family unit, membership of which was determined, as has been seen, by the utu system.

Within the kainga there existed, therefore, a reciprocal relationship between residential pattern and the boti and utu structures. The boti and utu structures determined potential membership of boti and utu groups, but membership only became actual when residential affiliation was established.

Each kainga traditionally possessed its own small maneaba, an uma-ni-mane, wherein met the old men of the kainga. These men were the governing group, functioning in relation to kainga affairs in much the same way as the old men of the various boti controlled the affairs of the community as a whole.

The building occupied an important position within the kainga as a hall of discussion and debate. Its restricted patronage by the elder male clan members was evidence of the authority and status which these individuals possessed, and the right of entry which extended to all male clan elders represented the democratic nature of this authority.

The other important structure within the traditional kainga was the boti shrine - the bangota.

Each boti was associated with at least one founding deity, and his totem. The spirit of these beings was enshrined in a stone slab, te boua-n-anti, which formed the central feature of each bangota.

The bangota was commonly located towards the eastern beach, this region being the domain of the spirits. It was also often located close to the una-ni-mane, and hence associated with the leadership of the boti, and the ceremonial centre of the kainga; or, as in the case of boti possessing more than one deity totem ancestor, in both locations.

The bangota occupied an extremely important place within the kainga. Even the maneaba, itself a sacred tabernacle, was also a place of debate, a hall of the living. The bangota, on the other hand, was exclusively the home of the spirits of the dead, the spiritual centre of gravity of the kainga. Through the bangota the kainga acquired its status as a sacred site, the home of the clan anti and ancestors, and was in this manner distinguishable from the other boti lands - their kawa and buakonikai holdings.

15.2.1(d) Articulation and Use of Space within the Mwenga

The traditional mwenga is most easily described as the family unit, although the term also referred to the residential structures and out-buildings which the family inhabited.

The group of individuals who occupied the mwenga site were the only group in Gilbertese society who were in constant social contact, united in economic co-operation, ate together, slept together, and were generally concerned with the welfare of each and all of their company.

Each mwenga was headed by its senior male member, and the same status hierarchy which operated in other sections of Gilbertese society was also applicable to the mwenga.

The individuals who composed the mwenga population varied from mwenga to mwenga, and particular mwenga populations would vary over time. There were, however, a number of typical population profiles to which most traditional mwenga would have conformed.

The first of these was the mwenga composed of a newly married man and his spouse. Post-marital residence

was ideally patrilocal, and close contact and co-operation with the parent mwenga was normal.

The second and most common mwenga was that comprising a middle-aged man, his wife/wives and their children. Ideally, this group would contain a balanced mix of sex and age groupings suitable for the performance of the various economic tasks required.

Where this was not the case, there existed a number of culturally sanctioned means for achieving a balanced family unit. The most common of these was adoption.

Mwenga members could also be temporarily recruited to cope with occasional crises or labour shortages, and, in addition, were frequently supplemented by visiting utu.

Culturally defined rights and obligations existed between mwenga members, and the group was formally named. Co-habitation was the defining criterion, and an individual who left to live on his own, or with another group, was no longer a mwenga member.

The third common mwenga profile was that of a married couple whose children had married and left the parent mwenga. Such couples, normally grandparents by this stage, would customarily have one or two grandchildren residing with them.

Each maneaba community would also usually contain a member of odd mwenga, headed by widowed adults, divorcees, orphans, and nikiranroros. It was normal for such individuals to attempt to reside with sympathetic relatives, but this was not always the case.

The mwenga site on which one or other of these groups resided was roughly 20 metres square and contained

at least one principal residence, the bata, with a storehouse, cooking oven, and fish-drying racks surrounding it. Each mwenga usually owned a canoe shed, but these were located along the lagoon shoreline of the kainga tract.

All bata and storehouses were arranged and built according to a geometric model - the structures were rectangular, oriented with their longitudinal axes parallel to that of the island, and physically discrete.

The bata was the significant architectural structure and its shape was the subject of a clearly defined proportional model. The model comprised three basic categories, each of which was divided into three further sub-categories. The nine sub-categories each specified a particular breadth for any chosen length of bata. The particular proportion chosen for the construction of any bata was supposed to affect in various ways the lifestyle and wellbeing of its occupants. In practice, all bata were constructed in the same proportion, and the analysis in the main text interprets this procedure as a means of defining a number of economic alternatives (and their consequences) within a logical set, rather than as a procedure for the choice of bata style. It was also noted that the full details of this model were known only to the specialist builders, and were part of a body of esoteric knowledge confined to this group, by which they justified and secured their vocation.

The procedures and ritual practices which were involved in the construction of the bata are too numerous to be repeated here. However, a number of important points in relation to the objectives of the thesis can be summarised.

The bata, the uma-ni-mane, and the maneaba were the only three prominent structures built by the Gilbertese. The special import of the bata was its status as the family home, and in this respect the form of the bata, and the procedures used in its construction, served as a medium through which could be expressed a model of culturally held constructs relating to family life. These constructs covered matters ranging from mwenga economic practice and wellbeing to matters concerning the inter-relationships of mwenga members one to another, and to the external world of individuals, the island environment, and finally the cosmos and its resident deities. The effect on the bata of such an intense investment of cultural symbolism was to make its form and mode of construction highly specific, and consistent across the community. Within each district, the bata were treated as small-scale versions of the maneaba, in the same manner that each mwenga was structured as a small version of the larger maneaba community.

Apart from being based on a similar proportional system to that of the community maneaba, the four corner posts of the bata bore the names of the same deities as did the maneaba corner posts. On Onotoa, the corner posts to the north-east and south-west were Tabakea and Bakoa, and their geometric opposition expressed the opposition of the two gods and the eventual triumph of the former. Further constructional measures detailed in the text were taken to ensure the continuance of Tabakea's ascendancy, and hence to express the continuing dominance of the Gilbertese civilization over its pre-human counterpart.

This east-west opposition was carried further to the relationship of the rafters, those to the east representing man and those to the west, woman. The location of the male rafters to the dominant eastern side, and their overlapping position to the north of the western

rafters along the ridge expressed the generally superior status of males in Gilbertese society, and, in this particular case, within the mwenga.

The examples above give some indication of the extent to which the bata functioned as a symbolic object. Through careful arrangement of form and a highly ordered construction process, an essentially straightforward building, devoid of extraneous detail or ornament, was used by the Gilbertese as a means toward the formulation and articulation of a complex domain of economic, philosophic, social, and religious ideas.

Its construction complete, the bata continued to serve an expresive function, particularly in relation to ritual practice. Many rituals associated with birth, initiation, magic, and worship were conducted at the mwenga, and the bata was used as an important orientation symbol within these performances.

Whereas, for the Gilbertese as a race, their islands and oceans, horizons, ocean depths, and heavens were used to help express the relationship of the various deities to each other and to the Gilbertese, the micrcosm of the bata served to encapsulate these same relationships in the minds of the family and the individual.

15.2.1(e) The Articulation and Use of Space within the Maneaba

The maneaba, like the bata already described, was a building whose form and mode of construction was precisely specified. Whereas each utu group living in close proximity to one another would have at least specialist builder responsible for bata construction, the specialist maneaba builders were a rarer breed.

Within each community, one boti was responsible for the construction and continuing maintenance of the maneaba, and within that boti only one specialist builder who took charge of the work.

It was this man who held all the detailed knowledge of the various constructional techniques and their accompanying ritual. Though other individuals could have knowledge of some of the broader principles essential according to which the building was constructed, it was essential that the specialist builder was always in charge of any work. Without his involvement the sanctity of the building could not be maintained. What could be collected of the knowledge possessed by the traditional maneaba builders is given in the main text. It is evident that from the cutting of the first timbers until the ceremony marking the final trimming of the thatch, each act was a step towards the completion of a building central to Gilbertese culture, and carried out in the presence and with the guidance of their principal deities.

Seen in this light, the maneaba was to the Gilbertese a sacred hall inhabited in spirit by the principal deities of the race. All behaviour connected with the edifice, both during its construction, and following its completion, was carefully specified and always temperate and respectful. The building and its surrounds served as a sanctuary, and no violence, whatever the justification, could be committed there.

Though bangota existed on the various kainga where particular gods were revered, it was at the maneaba that all the Gilbertese deities could be worshipped, and where their protection or assistance could be sought.

It has been noted that for the Gilbertese the presence of their deities, and of magical forces of many kinds,

was a constant condition of day-to-day life, without the clear-cut distinctions between sacred and profane behaviour that exist, for example, in contemporary Western society.

However, clear distinction was made between the status of the gods (te anti) and of people (te aomata): each was a being of a different order, the creator and the created.

The erection of the maneaba as a hall of the gods, and the state of sanctity in which this building and its surrounds were held can be seen, therefore, as a means towards the definition of this distinction. Through the creation of such a sacred edifice, and the creation of the various forms of ritual worship which were enacted within it, the Gilbertese composed a part of the broader cultural institution of religious practice by which they defined their place in the world and their relationship with their gods.

Like a sacred site or an elaborate cathedral, the maneaba was a formally defined zone where the world of man and the world of the gods became one, where both man and god recognised the presence of each other, and dialogue, usually also formal, was possible between the two.

Though the maneaba functioned in this manner as a sacred tabernacle, it was not created specifically for such a purpose. The erection of each maneaba in fact marked the creation or reorganisation of a community unit based on the model introduced by the Karongoa invaders. For each village, the building served as a meeting place and hall of debate, a place where the elders of each clan within the community could gather to discuss matters which concerned the community as a whole.

By virtue of the nature of the building and its layout, and of the ritual format of the proceedings which took place within it, the maneaba modelled and documented the social structure and social history of the village community. This was achieved by various means.

Firstly, as the settled kainga sites formed an almost continuous band along the lagoon shoreline of each atoll, each village was not a separate spatial entity. The definition of the village unit was based upon the collective inclusion of boti within a particular maneaba.

As the majority of the most important boti in any maneaba were allocated inaki at the time of the first partition of the maneaba, their ancestorship and orientation within the building were indicative of the particular branch of the Samoan invaders who originally established the maneaba community.

Secondly, from the ceremonial order of debate, it was possible to recount the order of the inclusion of all subsequent boti. Many of these boti were formed upon the fission of the original boti; others were the boti of kainga not originally subsumed by the invaders but eventually forced to do so.

The intricacies of the various rituals conducted within the maneaba codified a range of rights and obligations which existed between the various boti, and between the village and visiting groups.

Generally, behaviour within the maneaba was the primary model upon which was based behaviour at the kainga level, this again being repeated on the smallest scale within the mwenga. All the principles which related to social structure and control, whether matters of status, power, or authority were found to originate

at the village level and hence, within the maneaba. It was for this reason that the first act of the invading Samoan groups, with the aim of introducing a new social system, was the constructin of maneaba. And it is for this reason that the Gilbertese themselves recognised the maneaba as being at the heart of their culture system and the manner in which it was organised.

15.2.2 The Post-Contact Model

Since the early 1800's the Gilbertese have lived through a period of ever increasing foreign contact. The conversion of the great majority of the islanders to Christianity, and their colonisation by the British brought substantial enforced cultural change, and to a large measure disassembled that pre-contact model of the built form/culture model just summarised.

Initially, change was so substantial that many aspects of the traditional Gilbertese cultural system, if not outlawed, were rendered useless or confused to a point where they had to be abandoned. In the period since the Second World War the islanders have begun to have an increasing say in their own affairs. In broad terms this has led to an attempt, on the part of both the islanders and their political and religious administrators, to reincorporate those aspects of the traditional cultural system seen as valuable and relevant within the imposed framework, and, to maintain those traditional cultural elements which were unaffected by Western contact.

Part Two of the thesis has analysed this process in terms of its manifestation within the built form/culture relationship.

15.2.2(a) Island Settlement Pattern

The traditional arrangement of island settlement pattern divided the atoll into a number of maneaba-based communities, each socially and physically autonomous. In broad terms, it has been the aim of both the government and the missions to treat each atoll as a single administrative unit, and to establish centralized control on Tarawa. To this end, each agency introduced a new element to the pattern of island settlement - the government village and the mission station.

The major impact of these changes occurred at the community level and was analysed within that section of the thesis. What is notable here is that these changes resulted in the evolution of the concept of a true island community.

The missions placed the highest priority on the eradication of the violence and warfare, traditionally so common between individuals, between kainga, and between villages. This gospel of peace, and to a lesser extent, the introduction of a legal code, has been largely successful in its aims and has permitted the growth of a spirit of unity within each atoll community. The government, for its part, has been responsible for the establishment of a variety of community facilities all of which service the island as a whole. Each government village usually contains a school, hospital, court, and post-office, with ready access available to the village by way of the lagoon-side road, originally constructed by the missionaries.

Since the introduction of a part-cash economy, and the establishment of the Co-operative Society whose primary store is usually located at the government village, the islanders tend to visit the community centre on a weekly basis.

The net effect of these changes has been the creation of a number of political, religious, civil, and commercial structures which operate at the level of the island community. The total island population has become concerned with these matters through the activities of island politics and administration, public works, participation in the management of the Co-operative, church service, women's clubs, schools, scouting groups, sport, and ceremonial entertainment. Hand in hand with such participation there has developed a true spirit of island community. This has not only led to a general concern for the welfare and progress of the island as a unit, but also to its place within the Gilbertese community as a whole. Since independence was achieved in 1979, this concern can only be expected to increase.

The creation of the government village, including the public buildings and staff housing which it contains, is of itself a distinct alteration to the traditional pattern of island settlement, and has sprung directly from the functional spatial requirements of the services which are contained there.

In layout and construction, the government village and the buildings it contains owe more to the Western planning concepts of the early administrators than it does to any Gilbertese model. However, since the Gilbertese have begun to see this village as more the centre of their island community than as the village of the Government, they have also begun to participate in its growth.

On Onotoa, for example, a new 'maneaba' has been constructed to house the ceremonial, religious, and civil meetings of the total island community. It is constructed entirely from imported materials and is octagonal in plan.

Though non-traditional in form, the building is interesting from two points of view.

Firstly, the building is still called a maneaba, and is used in the same manner as are the traditional maneaba which remain on Onotoa. Representatives of each village sit collectively around the perimeter of the building, and debate proceeds in an orderly fashion. Spokespersons from each group speak in turn and all have an equal say.

Secondly, the entire island population contributed to the funds required for the construction of the building. This would indicate that Onotoans both recognize themselves as a unitary group, and see the basis for the organisation and functioning of that group to be an extension of the traditional maneaba community structure. Some dissatisfaction with the non-traditional form of the building was expressed. From a euphoric attitude towards Western technology and culture there is developing a return of interest on the part of the Gilbertese towards many of their traditional cultural forms and techniques. One could expect, therefore, that this will find its eventual expression in the building of future maneaba in particular, and in the general evolution of the layout and structure of the buildings which compose the government village.

There is, of course, no direct traditional counterpart. However, it would be in line with the findings of this thesis that, freed from the impositions of a foreign administration, the architectural evolution of the goverment village is likely to be an integral part of the cultural process of defining and evolving the concept of an island community.

Island settlement pattern was also seen to be closely related to traditional spiritual practice, particularly

in relation to the eastern beach and the world of spirits.

The introduction of Christianity has resulted in the conversion of almost the entire Gilbertese population, and the tenets of non-violence and general humanitarianism have been readily accepted. Nonetheless, alongside belief in the Christian god, the Gilbertese have maintained a belief in many of their own deities and spirits. Whilst such beliefs are rarely publicly expressed, they are maintained, partly because the traditional Gilbertese deities are so intricately linked with the ancestorship of the group, and partly because they are seen to have a relevance to the control of the local environment which the Christian system lacks. This dual attitude has allowed certain traditional beliefs to continue, and in relation to island settlement pattern, the eastern beach has retained its mystical presence. In particular, settlement there is still strictly avoided. Those foreigners who maintain residence even for short periods in the odd visiting government officer's huts which have been sited on the eastern beach (for its superior climatic qualities) are regarded as tempting fate.

15.2.2(b) Community Settlement Pattern

The two social structures, the boti and the utu, were seen to be closely related to the arrangement of community settlement.

The boti structure determined potential membership of the patrilineal clans, into which the community was divided. Actual membership was determined through residential affiliation with the ancestral kainga or subsidiary kawa which the clan inhabited. The utu structure controlled property inheritance.

Early government regulations which forced all mwenga to front the lagoon-side road destroyed the kainga complex, and mwenga were forced to relocate wherever they owned land or could find space along this road. The only place the clan could assemble as a unit was within their inaki in the maneaba, but this possibility too was denied them by the missions.

Ceremonial occasions aside, the kainga/maneaba system functioned primarily in terms of social control. This function was absorbed by the government and the church. As a result the kainga ceased to exist, the clan as an actual social unit was disbanded, and the maneaba ceased to function.

For some time following the European contact, the unimane were effectively denied any real say in the running of the community, their place being taken by mission and government officials and their appointees. Over the last sixty years and in particular the last twenty years, the unimane have, partly of their own accord and partly with government encouragement, returned to a position of power within the community.

Their numbers have lessened considerably, as many adult males from the outer islands are in paid employment on Tarawa, at Ocean Island, or on the shipping lines. Nevertheless they meet in the maneaba or within the smaller women's club maneaba, which resemble the traditional uma-ni-mane.

Though each is aware of his boti affiliation, this is no longer meaningful. They meet, rather, as the heads of the various extended families resident within the community. These groups are the largest functioning groups within the contemporary community, and more will be said of them shortly. It is important, however,

that the unimane are still the controlling faction within the village, for this has maintained to some extent the relevance of the maneaba as the traditional meeting hall; the place where decision-making is by consensus and where all unimane have the right to speak.

As to the utu structure, this was less directly affected by European contact than was its boti/kainga counterpart in that there were no deliberate moves to alter traditional patterns of property inheritance. When, initially, all mwenga were forced to relocate along the lagoon road frontage, there was some threat to this system because of attempts to claim ownership of squatter-occupied land. However, the government move to claim ownership of all road frontage lands and structures defused this threat.

Since 1922 each island has operated a Lands Court in an attempt to codify land customs and to register all holdings. This process is still far from complete and a substantial proportion of the population still have no legal claim to lands and are awaiting Court decisions.

Since the Second World War, the islanders have been free to live where they choose. Most continued to live close to the road but sought sites most appropriate to them. Those who owned lands in suitable locations of course built there. Those who had no property holdings in the district in which they wished to live rented sites, or obtained permission to occupy lands owned by relatives or close friends. Most land in the centre of each village on Onotoa for example is now occupied, through residence by no means corresponds with ownership.

The pressure upon road frontage land within each village has led to a change in the layout of mwenga. The older

mwenga had usually obtained road frontage lands by one means or another. As their children married it was desirable that, at least initially, they maintained residence close to the parent mwenga. Most of the narrow mwenga sites were occupied on either side and it has become common for newly established mwenga to erect sleeping houses within the parent mwenga frontage but located back from the road, sometimes two to three deep. Cooking and eating facilities could still be shared.

It was seen that the maintenance of formal social ties between the parent and junior mwenga (the code of conduct element of the utu structure) had important advantages for both parties. As this is most easily achieved by maintaining residential unity, the Gilbertese continue to manipulate the property-inheritance structure to achieve such ends, and the pattern of community settlement is consequently affected by this process in a manner not dissimilar to the traditional approach.

Community spiritual practice was, as one would expect, greatly affected by missionary activity, and the new religion radically altered the pattern of distribution of sacred and profane space. Traditionally, the entire village and the maneaba at its centre were a physical plot of the various social and spiritual groupings within the community. To each totemic clan, their kainga was sacred land and, to the community as a whole, the maneaba was their temple.

With the exception of the kawa, the total area of the village was sacred land, the maneaba and its marae revered by the whole community, and the various kainga by the groups which occupied them.

With the acceptance of Christianity the maneaba and

its marae became no more than a public preserve, and the kainga, in their spiritual association, barren and indistinguishable from bush lands or kawa. The villages became, therefore, no more than residential settlements, and in their midst were erected Christian churches.

In a sense the church replaced the maneaba as a sanctity, a symbol of the unity of the community, and, as with the maneaba before it, all individuals who worshipped there contributed to its construction and upkeep. Within the traditional maneaba, however, worship was not distinguished from other activities. Debate, dance, and games were not treated as secular activities but, along with formal ceremonies and rituals, were seen as spiritual affairs, conducted in the presence of the maneaba deities.

The new Christian churches, on the other hand, were devoted exclusively to worship, and other matters, even though often connected with church activities, were regarded as secular. As a consequence the parishes constructed maneaba-like buildings adjacent to the churches, in which meetings, ceremonies, food distributions, and film shows take place.

This split between spiritual and secular affairs, typical of Western culture but foreign to the traditional Gilbertese, has now become a part of modern Gilbertese life. It is expressed here in physical terms through two different buildings, the church and the church hall. The former is reserved for the sacred activities of the church, the latter for the secular.

The many physical manifestations of traditional communal spiritual activity - the kainga, the bangota, the uma-ni-mane, the initiate huts - have all but disappeared

in this general process of the desanctification of everyday life, and in their place stands the church.

15.2.2(c) The Mwenga Under Change

Traditionally, all permanent members of the mwenga, and all the mwenga which formed un-named but nevertheless co-operative extended families, stood in utu relationship to one another, either in form of identity or code for conduct, or both.

The utu structure itself was left relatively undisturbed by Western contact, but the behavioural relationships which were the manifestation of the conceptual structure were very much affected.

The administration treated each mwenga as an independent unit and these households, in their new location along the lagoon-side road, found themselves in the novel situation where their neighbours, though resident only a few metres distant, might be non-utu. Formal behavioural relationships between such groups were thus not specified.

In the eyes of the administration, this alteration to the physical pattern of settlement was insignificant in matters other than increasing the potential for the supervision of village affairs. It was, however, highly significant for Gilbertese social relations. In the new spirit of Christian fellowship, the islanders adapted to this change without major upheaval. Once the residential pattern began to stabilize, friendships developed between neighbours and in many cases became formalised through the label of 'as-if' kin. In fact, the utu structure readily accepted this seemingly new social relationship. As memberships of the utu could be via identity or code for conduct, in the latter sense neighbours could be regarded as kin. Neighbours

who established a close friendship conceived it in these terms and established corresponding reciprocal obligations towards each other.

The dispersal of the extended family mwenga into isolated independent mwenga also disrupted the traditional status structure which controlled social affairs within the utu.

The extended family was a spatial unit, residential proximity permitting the unimane to exert effective control and maintain constant supervision. Once the extended families were fragmented, the mwenga became the basic kin unit, and the only residential kin grouping. Over the course of this century, the increasing economic independence of the mwenga has reinforced this state of affairs. The authority of the unimane within the domestic sphere has been greatly eroded as a result.

Nevertheless, the great majority of Gilbertese still depend upon land ownership for procurement of resources, and, this being the case, the unimane retain basic control over extended family groups whose members rely on the unimane for their inheritance.

The increased mobility of individuals, and the possibility of supplementing local food shortages with bought produce, have enabled the extended family to maintain its existence, but as a spatially dispersed unit, with only periodic contact between its various members. The unimane control the major events within the extended family but daily affairs are overseen by the senior male within each mwenga unit. Where spatial proximity was once a vital requirement for the effective management of a co-operating social unit, this requirement has now been displaced. Social rather than physical means have served to maintain the extended family, and to allow its members to pursue those cultural ends still deemed desirable.

Physically, the structures which compose the mwenga have changed considerably since Western contact. Principally these changes were prompted directly by government officials. It was considered unhygienic for sleeping and eating to take place within a single structure and each mwenga was required to build two bata, one for each function. This pattern has been retained despite the repeal of the regulations which prompted it. As a result the majority of mwenga are now composed of a sleeping house fronting the road and usually with a raised floor (also a government requirement), an eating house behind it, and a cooking house behind that again.

Whilst the inclusion of an additional bata within the mwenga layout is a significant alteration to the traditional plan, the construction of these buildings is basically the same as it was in the pre-contact era. Even where a raised floor is included, the construction and proportion of the bata from the floor level up is unaltered.

In this sense, while imported materials and techniques are still too expensive for the outer islander to use in domestic construction, the traditional bata is an efficient use of materials and technique, and hence is as appropriate today as it was in pre-contact times. Though physically almost identical, the contemporary bata structure has lost much of the magical and spiritual associations which it held in the past. Like the maneaba, the bata was used to express relationships between the various Gilbertese deities, between the pre-human and post-human kingdoms, between man and woman, and between the individual and his gods.

The bata is still used as a vehicle to express ideas concerning these matters, especially by the elder males of the community. Since the advent of Christianity,

the traditional spiritual beliefs and ritual practices have been effectively eliminated, publicly at least. However, traces of these beliefs and practices still exist, if somewhat reduced in potency and relevance. Many are not in conflict with Christian practice and have survived more or less intact, others are remembered but passed off as folklore or practised privately. In terms of the various spiritual and magical associations carried by the bata structure, their existence has nevertheless become of minor importance and little referred to compared with pre-Christian times.

In addition, it is important to note that the expression of so many concepts and relationships via both the maneaba and the bata structures was seen as a technique adopted by a people lacking a script. Since Western contact, the Gilbertese have quickly taken the opportunity to preserve in writing the oral traditions of their culture, and written text has to a large extent suppl'anted built form as a vehicle for the expressin of ideas. This well illustrates the arbitary nature of the use of built form in the expression of cultural concepts. It is not the only means available and discovered relationships should not be treated as fixed and necessary.

Still strongly adhered to, however, is the belief in the importance of the use of correct proportion and constructional technique in controlling the future welfare of bata occupants.

Though essentially a straightforward piece of construction, no mwenga would consider undertaking the task except under the supervision of one of the specialist builders within their utu. In part this can be seen as a belief sustained by the specialist builders to preserve the relevance of their knowledge and their position within the community.

Its survival is, however, more the result of a lack of specific ritual within Christian practice aimed at, for example, ensuring individual welfare, achieving success in fishing expeditions and babai production, or securing a marriage partner. Traditional ritual practices concerning such matters still survive, and the continuing belief in the relevance of bata proportion and method of construction is a part of this wider set. As the layout of mwenga has changed significantly since Western contact, so has the manner in which space in and around the mwenga is used.

Informally, males and females spend a greater part of their day around the mwenga than would have been the case in the past. The increasing number of Western artifacts and more widespread ownership of canoes keep males engaged for considerable periods of time undertaking repair and maintenance of canoes, bicycles, kerosene lamps, fishing nets, sewing machines, and tools.

The introduction of flour and rice, and a general interest in more elaborate methods of food preparation; the introduction of cloth and the need to keep Western-modelled clothing washed and clean; the introduction of copra as an income source - all these require the female members of the mwenga to spend the bulk of each day at home.

Groups of males and females still avoid fraternising, as was the traditional custom, and the increased size and complexity of the mwenga permits both groups to operate separately even though they both spend long periods together each day within the mwenga site.

Formally, the mwenga is now a social centre in its own right. Where once groups of mwenga shared a common kainga land tract and important social and ritual gatherings

took place at the uma-ni-mane, now the mwenga is the only co-operating social unit at a scale below that of the community.

Whilst many of the spiritual, ritual, and ceremonial practices have disappeared with the introduction of Christianity, the occasions of birth, death, female initiation, marriage, and the visits of important guests still merit ceremonial distinction, and such activity now centres upon the mwenga.

The principal bata on the mwenga, the sleeping house, has been substituted for the uma-ni-mane, and the unimane sit within this bata for the duration of the ceremony. The individuals on whom the ceremony centres invariably occupy the central eastern position of the bata, that being the ancient orientation of most ritual performances. The unimane sit around the perimeter in accordance with the equality of status of the elders.

Food is served in the traditional manner, laid out in the centre of the bata. Other guests eat informally around the mwenga, and in the eating house if there is one.

Apart from its function as a sleeping house, therefore, the principal bata can also be seen as the most formal element within the collection of structures which make up the mwenga. It is for this reason that it continues to be so carefully constructed and maintained, the symbolic centre of the household.

15.2.2(d) The Maneaba Under Change

From the initial period of government and mission intervention in island affairs, the maneaba gradually ceased to function.

The missions discouraged any use of the maneaba because of its association with pagan ritual, and the goverment effectively brought about its destruction as an integral part of the fabric of Gilbertese society through the dismantling of the kainga estates. Since the repeal of the Island Regulations in the 1940's, and as the Gilbertese have gradually taken back responsibility for their affairs, the maneaba has again become a focus of Gilbertese society. In particular, the maneaba has maintained its symbolic force as the structure in which public social gatherings should be held.

On Onotoa for example, not only are the two traditional maneaba at Buariki and Tanaeang in good repair, but in addition there are women's club maneaba at Tamao, Buraitan, Tanaeang, and Tekawa, church maneaba at Totene Mission and Tekawa, a school maneaba at Tamao, a government workers' maneaba at Buraitan, and a new island maneaba at Buraitan. The majority of these maneaba are identical in construction to the traditional uma-ni-mane, and vary in size according to the number of people using them. The larger school and church maneaba have lines of both bouriki and boutabo and are true maneaba.

The use of the common term 'maneaba' for all these structures, including the new octagonal island maneaba, is important, for it serves to express the continuing relevance of the traditional cultural values which governed community affairs, In particular, it emphasises the unitary and egalitarian nature of the various groups using the buildings, including those modern organisations which had no part in traditional society, and expresses the fact that they have become 'Gilbertese' rather than foreign in spirit.

With the decay of the kainga, the boti seating divisions within the traditional maneaba lost their principal

reason for being. Now that the maneaba are again being used, individuals do sit in the building in positions roughly approximating their clan divisions. Though the clan does not operate as a group, and representatives of all clans are no longer present, each individual is aware of his clan membership and seats himself accordingly. The practice is nonetheless more force of custom than an operating principle.

A practice which has been preserved, and adapted within the new maneaba, is that of perimeter seating, and the construction of a central ceremonial space. This practice is basic to Gilbertese ceremony; it places all participants in equivalent proximity to the central area. Individual speakers move into it when addressing a gathering, food offerings are placed there, and dancing is held there, as is formal feasting on occasions. Each group or individual around the perimeter is thus delegated a position of equal status to any other, in keeping with basic Gilbertese social principles. Likewise, the seating is hierarchically structured from front row to back in accordance with social status - the unimane and rorobuaka at the front, younger people, women, and children at the rear.

In addition to being a sacred and ceremonial hall, the traditional maneaba served also as a hall of debate, the centre of decision-making within the community. In this sense, politics, the unimane and the maneaba were intimately connected.

The changes that came first with Western contact removed the unimane and the maneaba from their central position in Gilbertese life. With the return of political power to the Gilbertese, island politics have become a complicated affair. Formal authority rests with the Island Executive Officers, the Magistrate, and the Island Council.

However, local island affairs have tended to be controlled in practice by the church, and, via their positions within the Co-operative Society, by the unimane.

It is of note then that, on Onotoa, whilst the Island Court and Council sit at the Court in the government village, all other meetings are held in the maneaba. The principal orators at these meetings are the unimane. So it is that, despite government attempts to bring about a shift in both the personnel responsible for local politics and the location of their meetings, the unimane and the maneaba have remained at the centre of island politics.

15.3 CONCLUDING REMARKS

The summary of findings presented above forms a brief outline of the results of the investigation generated by the initial objectives of the study.

Following an identification of the various elements which composed traditional Gilbertese built form, those constructs which were seen to represent the cultural conception of that society's relationship with each of those elements was presented. Together, those constructs were seen to form the traditional Gilbertese conscious model of their relationship with the built environment. An outline of the inter-connectedness of that model with those other conscious models which compose the cultural system completed the analysis of the traditional built form/culture relationship.

The summary of the contemporary model follows a similar procedure, but, through an investigation of the major sources of induced cultural change, highlights the dynamic aspect of the cultural system.

These specific conclusions aside, two more general points can be made which concern the built form/culture relationship and which have emerged as a result of the analysis conducted.

The expectations before research commenced can best be summarised in the ieda that built form is somehow shaped by culture. Any given culture generates a particular lifestyle, and built form is moulded and organised into a physical environment which is suitable for the pursuit of that lifestyle. In this sense, architectural forms are seen as the physical expression of cultural ideas.

By the time fieldwork was complete, a very different concept of the built form/culture relationship had emerged. Because the data which were collected concerned a period covering many centuries, the dynamic nature of culture was particularly apparent. Combined with the evidence of the radical revision of cultural form brought about by the Samoan invasion, a concise image of the role and process of culture could be seen.

The basic notions which lie at the heart of the cultural domain are extremely abstract. They concern such matters as our place on earth, social organisation, and social control. These concerns are common to all human groups. Each group has tackled these notions and developed its own particular cultural order - its own brand of religion, kinship, politics, and so on. The specific cultural formulations which compose this order are transformations of abstract notions. The transformation from 'abstract' to 'real' and 'specific' is achieved through definition in relation to elements within the 'real' world.

Take for example the abstract notion of social control.

Each cultural group has transformed this concept into a particular organised structure. The structure determines who shall rule and who shall be ruled, the procedures for acquisition of authority, the penalities for disobedience, who shall own what and live where, etc. All these formulations relate to aspects of the real world - to people, to things, to places.

As built form is one aspect of the real world, then when the process of cultural formulation is seen in this light, one could expect that the development of Gilbertese architecture could have taken place as part of the general development of Gilbertese culture.

Such a proposition does not treat architecture as an element which has been shaped by a culture already defined. It sees it rather as an active element used in the process of cultural definition.

The analysis of the research data which makes up the main text upholds this proposition, and outlines the extent to which Gilbertese architecture did indeed develop as part of the larger process of the general development of Gilbertese culture.

The establishment of the invading Karongoa clan on Beru is an excellent example of built form functioning in this manner. The first act of the invaders was the erection of the Tabontebike maneaba. The construction of the building using, so it is said, the timber of the maneaba which the Karongoans had themselves used in Samoa, was the first step towards imposing the social system of the invaders upon the conquered Beru Islanders. Moreover, the spread of the Karongoan culture throughout the remaining southern islands was always marked by the erection of Tabontebike-style maneaba. Concurrently with the erection of the maneaba went the spatial re-

organisation of the maneaba districts into the clan estates known as kainga.

The system of social organisation introduced by the Karongoans was based upon division of the group into totemic clans. The notion of division of a larger group into segments is a notion in the abstract, common to most cultures. By designating sub-groups on the basis of kinship (into totemic clans), a specific idea from the real world has been introduced to elaborate and define an abstract cultural notion. Nevertheless a group defined on the basis of descent alone remains in part abstract. It includes all those kin of common ancestry, whether living or dead, reckoned in terms of the particular rule of descent.

It is not until such a group is composed of living members between whom there is some form of social contact that the concept moves properly from the abstract to the actual. One actual Gilbertese kin group was the boti. Daily social contact between boti members occurred as a result of their common residency within a clan estate or kainga. Indeed, membership of the boti was dependent upon residential status within the kainga.

The kainga was used, therefore, as a means of defining what the Gilbertese meant by an actual kin group. In other words, an element of built form, as a idea, was being used by the Gilbertese in the development and refinement of the cultural notion of group.

A larger social group in Gilbertese society was the village. In the same way that membership of the boti was dependent upon residential status within the kainga, so boti membership of the village group was dependent upon possession of a boti seating place, or inaki, within the maneaba. In this case, a more architectural

element of built form, the maneaba itself, has been used in the elaboration of a cultural concept.

The research goes on to show how both the kainga and in particular the maneaba were used to express in detail the working relationships between the village clans. The allocation of particular kainga sites and the particular orientation of inaki within the maneaba geometry were a symbolic means to the continuing definition of the rights and responsibilities of the various clans toward each other.

The Karongoan initiative which created the maneaba/kainga complex can thus be readily understood, for these two elements of built form, in conjunction with the patrilineal descent system, created the model upon which Gilbertese society was based.

The first section of the thesis becomes a document of the development of traditional Gilbertese architecture interpreted in this light, as a symbolic means towards cultural ends. The non-stratified settlement pattern of the kainga estates was expressive of the non-stratified nature of the society itself; the structure and orientation of the mwenga buildings were a means toward developing concepts of spiritual practice; the bata structure was symbolic of male/female, man/deity, and land/sea relationships. Each chapter documents a particular element of built form as it functioned in this manner.

Of great importance in depicting built form as a symbolic means toward the expression of cultural ideas, as oppsoed to depicting built form as an object shaped by cultural form, is the impact such a formulation has on the degree of deterministic connection between architecture and culture.

To describe architecture as being shaped by culture is to describe it as an end product of sorts, and to imply a deterministic link between the two. It is also to remove its status as a form of art. This immediately leads to difficulties, for indeed all forms of human activity which involve communication between men can be seen as critiques, either positive or negative, of the culture to which they belong, and are in this sense art. When contrasted with the simplicity of the architectural structures themselves, the complexity and richness of the symbolic content of Gilbertese architecture is extraordinary. It has been through this symbolic content that the structure of so much of the Gilbertese culture, their religion, politics, and so on, has been defined and elaborated. Gilbertese architecture was in reality one of the tools of thought for shaping Gilbertese culture. And certainly it was not a mere by-product of a culture already in existence. If, as seems likely, the creation and use of the built form became almost repetitive prior to European contact, then it still served as one of the means for educating each successive generation of islanders in the way of life of their community.

When the relationship between built form and culture was seen in this light, it permitted a useful analyais of the changes which took place in Gilbertese architecture and culture since European contact, and is indeed equally useful in assessing changes which might take place in the future. Built form, when approached in this manner, is seen as a means towards the expression of cultural ideas, and, as such, is only one of a great variety of means used by a group of people to this end. It follows therefore that for any one cultural notion the particular architectural form, action, or idea which may be used by a people in expressing that notion might not necessarily be the only means available to them.

An example of this possibility was seen in the process of change brought about by the forced re-location of mwenga sites along the lagoon. The definition of close utu had been through the residential affiliation of small mwenga groups within the kainga territory. When these groups were split, such means were no longer available. But the utu was not disintegrated and since the introduction of a part-cash economy a postal money order from physically distant relatives, on Tarawa for instance, permits the provision of the same resource as could be supplied by a relative living close at hand. In other words, as one of the ways of defining and giving meaning to the utu relationship, a financial bond has replaced a spatial one.

These conclusions, developed from field work conducted on Onotoa, have been used to structure the presentation of data collected for the purpose of studying the relationship of built form and culture within the Gilbert Islands. The research was undertaken with the aim of exploring the theoretical nature of that relationship, and, in the process, to expose its content as this has appeared on the southern Gilbert Islands, and on Onotoa in particuar, since the time of the Samoan ivasions. However, some general conclusions can also be drawn which are of more pragmatic benefit to those working in the field of architectural design and planning within the Gilberts. They are brief but significant.

Firstly, when it is realised that the traditional Gilbertese built enviornment performed a symbolic role in the elaboration of Gilbertese culture equally as much at it served its primary function of providing shelter, then it becomes evident that this environment was as much an environment of ideas as of actual physical structures arranged in space.

Examine, for example, the way the bata, through enlistment of the services of all adult utu members during its construction, became one of the vehicles for affirming the code of conduct which existed between utu members. In this sense, the nature of the group which built the bata was of such importance that the thought suggests itself that today, when imported building materials are competing more and more successfully with indigenous materials, a bata constructed of the former but built co-operatively by an utu group could well be seen as more desirable than a bata built of traditional materials but erected by, for example, the government. This is by no means to say that the form is not important (it undoubtedly is), but merely that non-visible ideas and processes are as much part of the built environment in its symbolic role as are its physical manifestations.

Likewise, the physical structures themselves should not be seen just as whole units, but recognised as well for the significance of their parts. For example, the actual materials of which a floor is constructed may not be important, while the proportions of that floor remain very much so. The problem of recognising what is important and what is inconsequential in the materials and forms which make up the built environment is not a simple one.

It is hoped that the ethnographic material contained here will be of benefit to anyone attempting an understanding of Gilbertese architecture and culture. It should, however, be remembered that it comprises only that material which could be collected during fieldowrk, and that greater familarity with the language could have produced proportionately greater quantities of data and understanding. Further, the work revolves around the framework of architectural ideas, and as outlined in the introductory chapters represents only

the first step in the process whereby those ideas are transformed into physical reality. It is a characteristic of the majority of such symbols that they are arbitrary and artificial, the result of human invention. As such they are subject to change, and there is no way of guaranteeing that any particular meaning designed into architectural form will be so perceived by those who inhabit it. This is not cause for despair, for the greater the understanding that any designer operating in the Gilbertese context has of the development of the region's architectural tradition, the greater his possibility of success, the more valuable his communication with those for whom he is designing, and the greater his chance of comprehending the reasons behind any failures.

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appendix 1

GEOGRAPHICAL PROFILE OF THE GILBERT ISLANDS

1.1 CLIMATE

1.1.1 General Characteristics

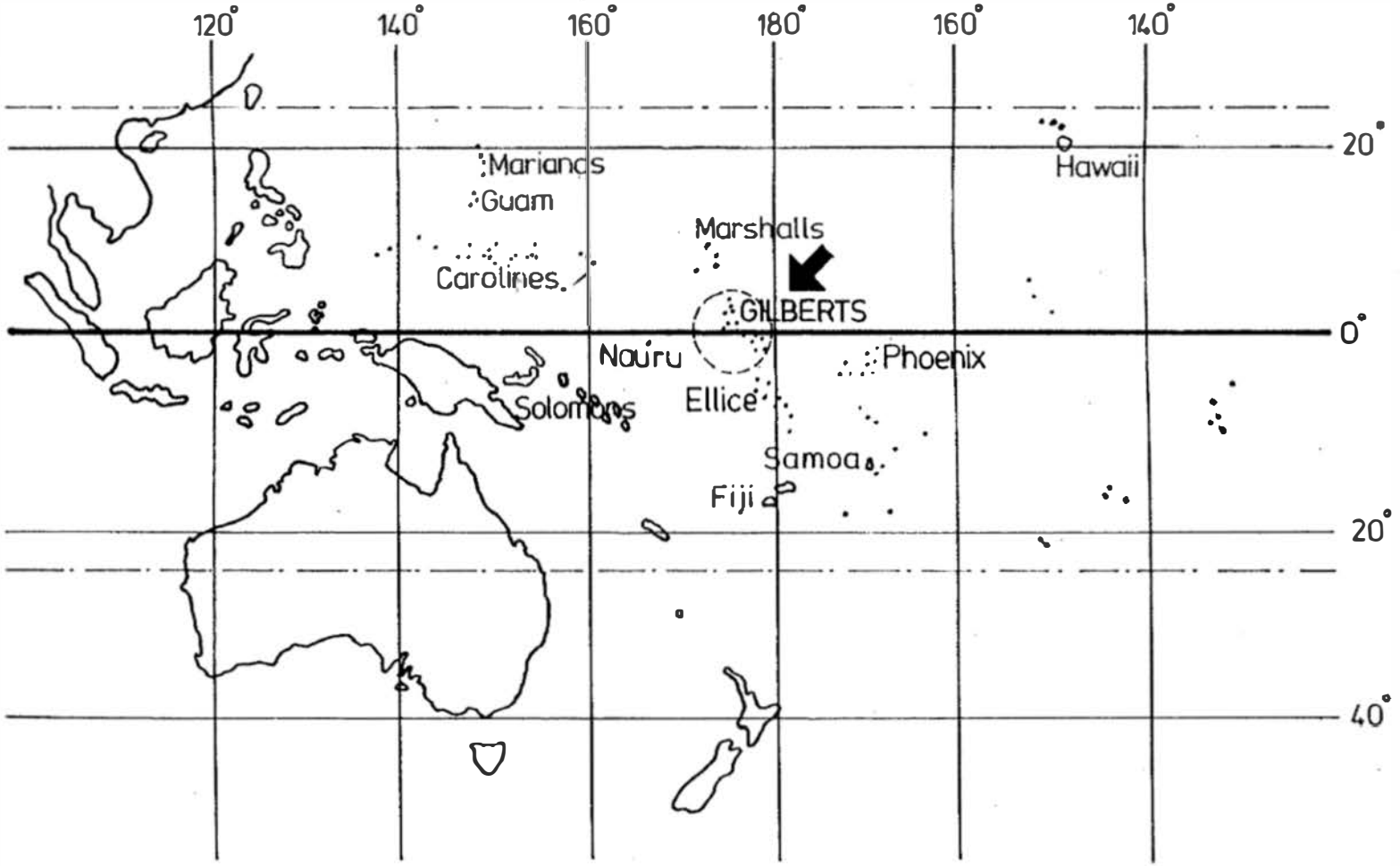
The sixteen Gilbert Islands have been variously described as possessing an equatorial[1] or tropical[2] oceanic climate. The islands which stretch over some 650 kilometres of ocean from their southernmost to northernmost tips, lie between 3 deg. 30 lat. N and 2 deg. 45 lat. S, and between 172 deg. 30 and 177 deg. long. E. See figures 1 and 2. This places them in the dry belt of the central Pacific. There is, however, a generally recognised rainfall gradient from north to south, the southern islands being somewhat drier than their northern counterparts.

The effect of the islands on the general oceanic climate is minimal because of their small land area (Onotoa 1345 ha., average for the group 1800 ha.), and their low elevation which rarely exceeds 3 metres above average sea level. Land and sea breezes are absent, and wind directions vary very little during the day. The lack of any significant elevation does not encourage a build up of rain-cloud over the islands, and the afternoon shower, so typical of the Pacific Islands, is not in evidence.

Specific meteorological data for Onotoa and the Gilbert Islands as a whole arevery lacking and cover only sporadic periods of their history since European occupation. Gilbertese climatology is orientated towards sea-faring and agriculture, but remains nonetheless a valuable source of information, and will be discussed in this chapter.

1.1.2 Temperature

Though temperature figures are one of the least complete of available climatic data, the small monthly and diurnal temperature ranges which they indicate render these figures



WESTERN PACIFIC

FIGURE 1

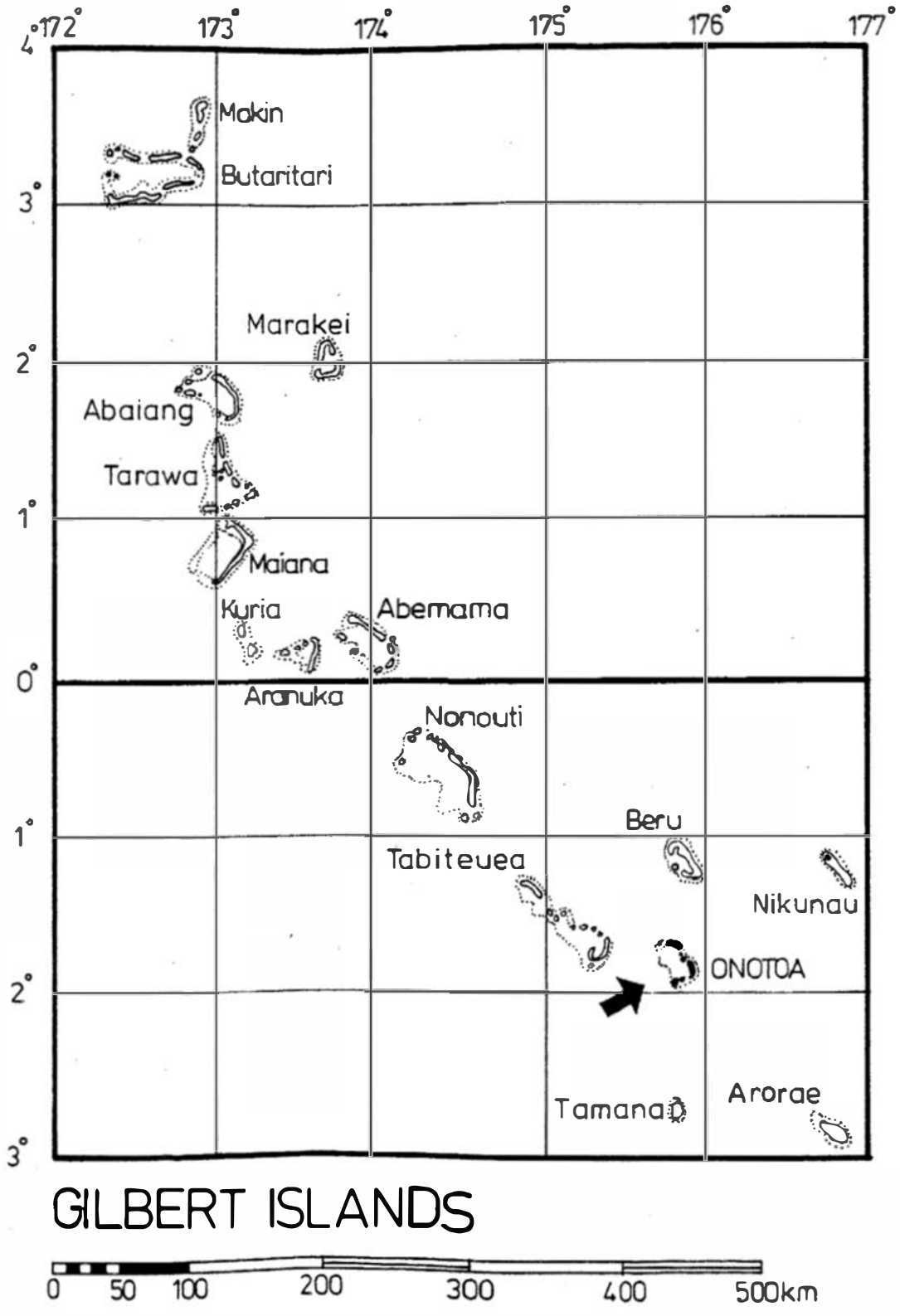

4°
3°
2°
1°
0°
1°
2°
3°
172°
173°
174°
175°
176°
177°
Makin
Butaritari
Marakei
Abaiang
Tarawa
Maiana
Kuria
Abemama
Aranuka
Nonouti
Beru
Tabiteuea
Nikunau
ONOTOA
Tamana
Arorae
GILBERT ISLANDS
0 50 100 200 300 400 500km

FIGURE 2

sufficiently reliable for interpretation. The different sources, furthermore, whilst not entirely consistent, never exhibit a variation of more than 1 deg. C., a difference which holds no import for architectural evaluation.

Catala gives only a yearly average of 28 deg.C., adding that this figure is subject to a low yearly variation.[3]

The Great Britain Meteorological Office's Tables for the World present data for only one island, Tarawa, and only during the period 1950-54.[4] See figure 3.

	J	F	M	A	M	J	J	A	S	O	N	D	Yr.
Av. Daily Max.	31	31	31	31	31	31	31	31.5	31.5	32	32	31	31
Av. Daily Min.	25.5	25.5	25.5	25.5	25.5	255	25	25	25	26	25.5	25.5	25.5
Av. Highest	33	32	32	33	33	33	33	33	33	33	33	33	33
Av. Lowest	23	24	24	24	23	23.5	23	23	23.5	23.5	23.5	24	23.5
Abs. Max.	34	33	33	34.5	34.5	33	33	34.5	33	34	34	34	34
Abs. Min.	22	23	23	23	21	21	21	22	23	22	23	23.5	22

TARAWA: 1950-54 Data has been converted to °C

FIGURE 3

These figures give an average yearly temperature of 28.5 deg.C., and an average yearly range of 7 deg.C. The diurnal range is computed below. See figure 4.

	J	F	M	A	M	J	J	A	S	O	N	D
Diurnal Range	5.5	5.5	5.5	5.5	5.5	5.5	6	6.5	6.5	6	6.5	5.5

TARAWA: 1950-54 Data in °C

FIGURE 4

It is to be noted that the absolute maximum and minimum recordings show a variation of only some 2 - 4 deg.C. from the average daily maximum and minimum temperatures. From these figures it can be concluded that

(a) temperature extremes are very close to average temperatures

(b) the months of August to November are slightly warmer than the remainder of the year

(c) the low diurnal range indicates only a slight variation in day-time and night-time climatic conditions.

Sachet produces temperature data for only two islands, both in the north, Butaritari and Abiang.[5] See figure 5. She adds that the southern islands experience a very slightly higher mean temperature than do the northern ones.

	J	F	M	A	M	J	J	A	S	O	N	D	Yr.
Av. Daily Max.	31.5	30.5	31.5	31.5	32	32	32	32	33	34	31.5	31.5	32
Av. Daily Min.	25.5	25.5	25.5	25.5	26	25.5	25.5	25.5	26	26	25.5	25.5	25.5
Av. Highest	32	34	34	34.5	34	33	33	33	35.5	35	34.5	33	34
Av. Lowest	24.5	23.5	24	24	24	23.5	21.5	22	23.5	24.5	23	24.5	23.5
Abs. Max.	32	34	34	34.5	34	33	33	33	35.5	35	34.5	33	34
Abs. Min.	24.5	23.5	24	24	24	23.5	21.5	22	23.5	24.5	23	24.5	23.5

BUTARITARI : 1903-04 Data in °C

FIGURE 5

These figures give an average yearly temperature of 29.75 deg.C. and an average yearly range of 8.5 deg.C. The diurnal range is computed below. See figure 6.

	J	F	M	A	M	J	J	A	S	O	N	D
Diurnal Range Butaritari	6	5	6	6	6	6.5	6.5	6.5	7	8	6	6
Diurnal Range Abaiang	5.5	5.5	4.5	4.5	5.5	5.5	5.5	6.5	6.5	5.5	6.5	5.5

Data in °C

FIGURE 6

Sachet's figures for Abiang contain no average daily maximum values. By interpolating between Sachet's average monthly minimum and average monthly temperatures, hypothesised average monthly maximum temperature can be arrived at. This gives an average yearly temperature of 28 deg.C., an average yearly range of 7 deg.C., and a diurnal range which is computed above.

Data for Onotoa were collected over a six-month period, March to August 1976. Such a short time span has no statistical validity. The exercise was undertaken to compare data with those available for other islands, there being no official temperature records kept for Onotoa. The Onotoan figures are given below. See figure 7. It was hoped that these figures would be in agreement with records for other islands. If this were the case, then the official records would offer the most reliable guide, their average values being deduced from a far longer survey time.

It is evident that the figures tally almost identically with the Tarawa figures, and it is therefore assumed that, as regards temperature, Tarawa figures would correspond to Onotoan figures on an annual basis.

The slight increase in temperature figures for southern islands, as predicted by Sachet, was not evidenced on Onotoa, though the climate during 1976 was considerably milder than usual, according to informants. As even an increase of

2 to 3 deg.C. would not affect architectural considerations with respect to maintenance of comfort, this small degree of uncertainty is not problematic.

	M	A	M	J	J	A
Av. Daily Max.	31	31.5	31.5	30.5	30	31.5
Av. Daily Min.	25	25	25.5	25.5	25	25
Av. Highest	32	33	33	32	30.5	33
Av. Lowest	24	24	24	23	23.5	24
Abs. Highest	32	33	33	32	30.5	33
Abs. Lowest	24	24	24	23	23.5	24

ONOTOA: March-August 1976

FIGURE 7

1.1.3 Humidity

The only humidity data on record are again given by Sachet for Abiang and Butaritari,[6] and for Tarawa by the G.B.M.O.[7] The 'a.m.' and 'p.m.' readings have been omitted for brevity, and average monthly readings have been computed and listed below. See figure 8.

No explanation of the apparent discrepancy between the figures is given by Sachet, although she notes:

> "What little data are available are so inadequate that no generalization is possible, beyond the fact that these factors vary from island to island; information is very much needed."[8]

	J	F	M	A	M	J	J	A	S	O	N	D
Butaritari Av. R.H.%	72	76	75	76	74	74	74	71	74	69	73	-
Abaiang Av. R.H.%	64	63	63	64	63	61	60	57	57	61	61	61
Tarawa Av. R.H.%	77	75	77	77	76	75	74	74	73	71	69	76

FIGURE 8

Unfortunately humidity data can also vary significantly with varying instrument positioning. Data are recorded for Onotoa over the six-month period, March to August, 1976. See figure 9.

Onotoa Av. R.H.%	-	-	76	78	78	83	85	78	-	-	-	-

FIGURE 9

A review of the three sets of figures makes it extremely difficult to draw any conclusions as to a statistical average percentage relative humidity for Onotoa. However, it is noted that the humidity values used by Mahoney[9] in the determination of comfort zones[10] are grouped as follows:

Humidity Group	Average R.H.
1	below 30%
2	30 - 50%
3	50 - 70%
4	70% +

It would thus appear that Onotoa, and the Gilbert Islands as a whole, can be designated Humidity Group 4; that is, having a percentage R.H. greater than 70%.

I.1.4 Rainfall

Rainfall is high in the northern Gilbert Islands, gradually diminishing to low in the southern Gilbert Islands and northern Ellice Islands. Though rainfall registrations were collected during fieldwork in 1976, there are insufficient data for Onotoa on record to draw reliable averages.[11]

These figures are given below, along with figures for a typical northern and central island for comparative purposes. See figure 10.

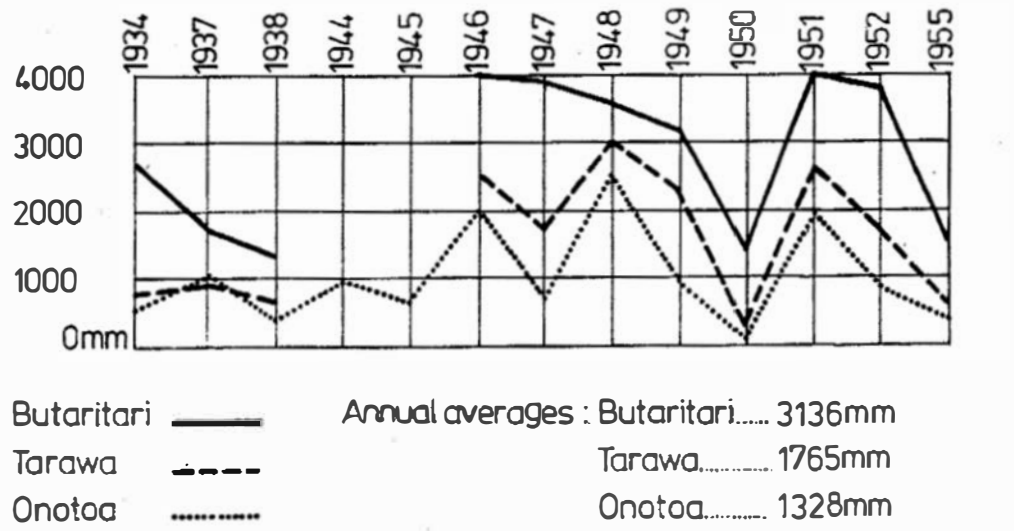


FIGURE 10

These figures indicate the extent of the rainfall gradient from north to south. Additionally, they indicate some corre-

lation with wind patterns. As will be seen, rainfall is highest in those months corresponding to the northerly and westerly winds, that is from November through to February, and in correspondence with the Australian monsoon season. The driest months are those corresponding to the trade wind seasons, when the winds are north-easterly in the southern autumn and south-easterly during the southern spring. Rainfall also increases in those months corresponding to the changeover of these trade winds, that is around June and July.

1.1.5 Winds

(a) Wind Directions

Sachet notes that the prevailing winds in the Gilbert Islands are easterly, though there is seasonal variation:

Month	Direction
January - April	NE-ENE
May - September	E-SE
October - December	E-ENE-NE [12]

The duration of the south-easterly winds is slightly longer in the southern Gilbert Islands. These islands are also subject to westerly winds during the southern summer, as a result of the Australian monsoons. In fact, westerly winds can occur occasionally throughout all months of the year, but their occurrence is so variable that no predictions can be made.

Wind data (direction only) were recorded during the period March to August, 1976. The direction of the highest frequency, secondary frequency, and frequency of westerly winds for each month are given below. See figure 11.

These figures are in substantial agreement with Sachet, also giving the prevailing wind direction as easterly.

	Mar	Apr	May	Jun	Jul	Aug
Primary	N.E. 50%	E.50%	E.58%	E-S.E.50%	E-S.E.72%	E-S.E. 69%
Secondary	E. 40%	N.E. 44%	N.E. 19%	N.E. 30%	N.E. 9%	N.E. 18%
Westerly	0%	3%	6%	10%	9%	11%

$$\text{Percentage} = \frac{\text{no. of days of wind occurrence}}{\text{total days in month}} \times 100$$

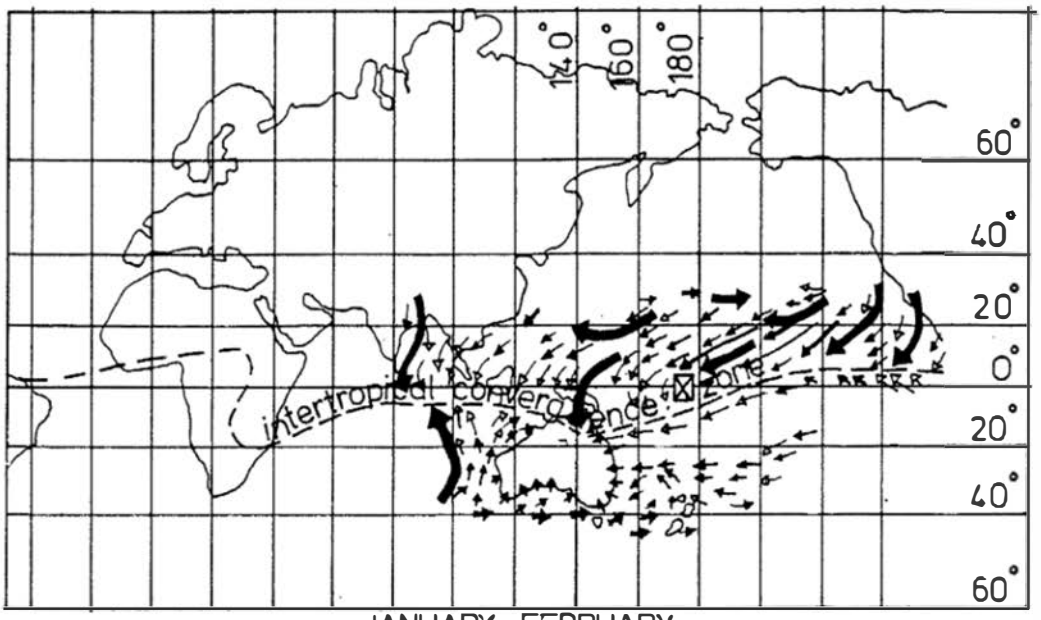
FIGURE 11

Further support is given to her thesis by Bowditch who presents two maps showing prevailing breezes over the Pacific for the southern summer (January - February) and the southern winter (July - August).[13] It can be seen that the prevailing winds over the Gilbert Islands vary with the north-south movement of the inter-tropical convergence zone, coming from the north-east in the southern summer, and from the south-east in the late southern winter. See figure 12.

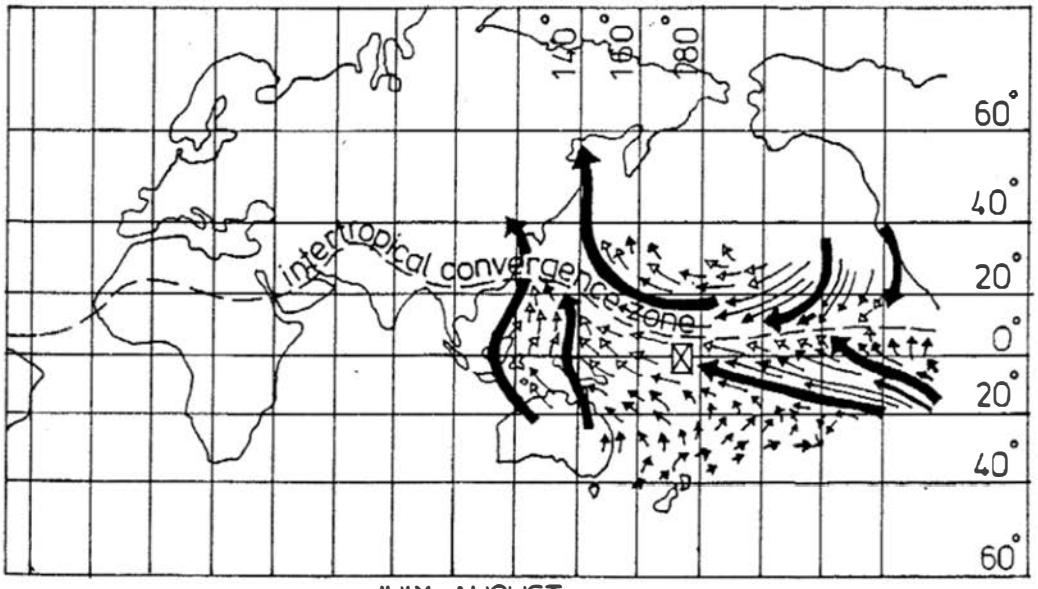
(b) Wind Speed

Bowditch gives the strength of the prevailing wind as light to moderate; that is 10 - 15 knots, decreasing in a westerly direction over the Gilbert Islands to 10 knots or less.[14] See figure 12.

These figures are broken down on a monthly basis by Sachet.[15] See figure 13. Her figures also indicate a general wind velocity of 10 - 15 knots, 10 knots being the average. Calms are rare, the Gilbert Islands lying well to the west of the Doldrums. It should be noted that in the study area (area 3) the December average is somewhat higher, owing to the increased frequency of northerly and particularly westerly winds at this time. These winds are usually accomp-



JANUARY - FEBRUARY



JULY - AUGUST

⊠ GILBERT ISLANDS

LENGTH of arrow indicates degree of constancy of WIND DIRECTION

TYPE of arrow indicates average WIND FORCE

➡ = 20+ Knots
→ = 15 - 20
⇢ = 10 - 15
⇢ = 10 —
∿➡ = Direction of movement of AIR MASS

FIGURE 12

Distribution of wind forces in:	% of total wind observations recording:	Area 1	Area 2	Area 3
February	Calms	0	4	7
	Beaufort 1-3	50	35	71
	" 4-6	50	61	22
May	"	0	12	3
		75	76	61
		25	12	36
July	"	0	0	4
		60	25	79
		40	75	17
October	"	0	0	4
		88	67	67
		12	33	29
December	"	13	0	0
		65	69	50
		19	31	45
	7-8	3	0	5

Area1: 0° - 5° N, 170° - 175° E
Area2: 0° - 5° S, 170° - 175° E
Area3: 0° - 5° S, 175° - 180° E

Beaufort 0 - 3 = 0 - 10 knots
Beaufort 4 - 6 = 11 - 16 knots

FIGURE 13

anied by rain squalls and tropical storms. They can reach quite high velocities, knocking down coconut trees and causing extensive damage to housing. The British Colonial Reports[16] and Blue Book[17] describe these westerlies as 'gales' and 'violent gales' respectively, noting their severity and the fact that shipping was seriously interfered with.

1.1.6 Cyclones

The southern islands are not affected by cyclones and they are rare in the northern islands. The Pacific regions of tropical cyclogenesis are given by Gray, and it can be seen that the Gilbert Islands lie between these regions.[18] See figure 14. A study of the preferred storm tracks indicate that these cyclones, once formed, head in a westerly to north-westerly direction in the northern hemisphere, and a southerly to south-easterly direction in the southern hemisphere.[19] In both instances, these directions are away from the Gilbert Islands. See figure 15.

The rarity of cyclones in the Gilbert Islands is noted by the United States Hydrographic Office:

> "Only one hurricane is definitely known to have occurred. This damaging storm crossed the Gilbert Islands on December 4 - 5, 1927, where it was observed in the extraordinarily low latitude of 3 deg.N. at longitude 172 deg.E. On Makin Island severe south-easterly gales lasted nearly 12 hours." [20]

Figure 15 shows the increasing storm velocity rate which indicates that cyclones, if they did occur in these latitudes, would be moving relatively slowly and hence present danger for considerable periods of time.

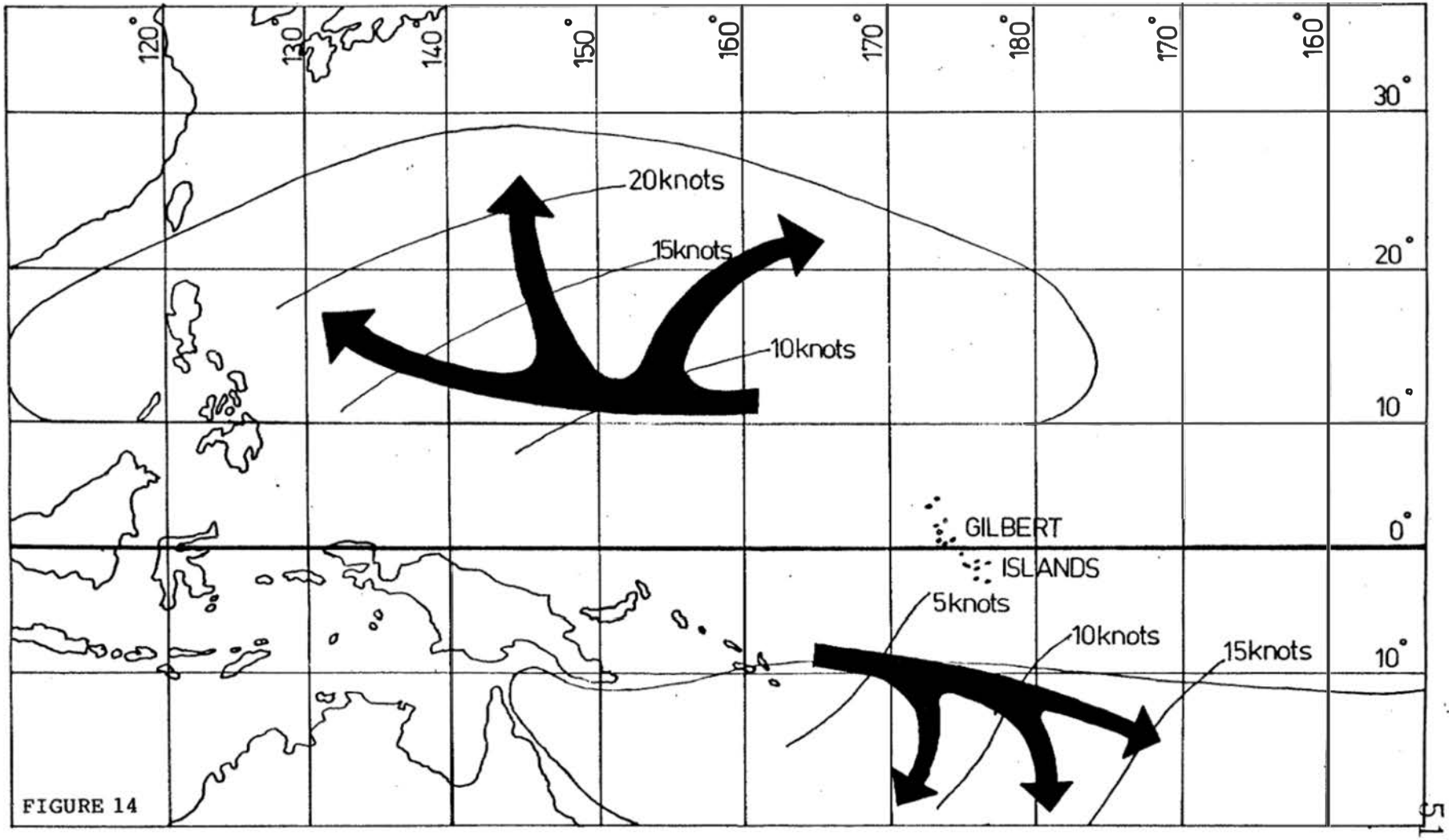

120°
130°
140°
150°
160°
170°
180°
170°
160°
30°
20°
10°
0°
10°
20knots
15knots
10knots
GILBERT
ISLANDS
5knots
10knots
15knots

FIGURE 14

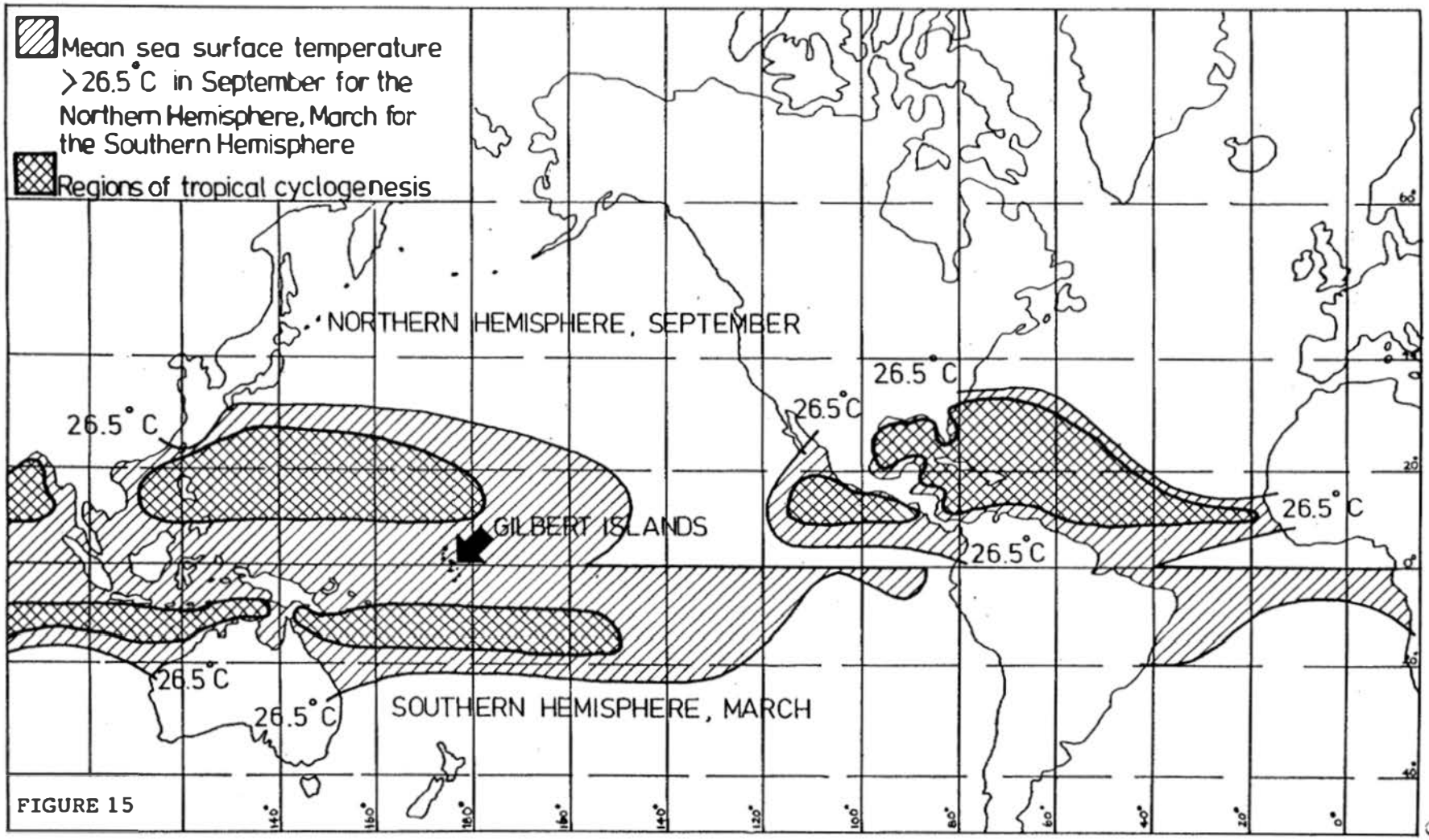

Mean sea surface temperature
>26.5°C in September for the
Northern Hemisphere, March for
the Southern Hemisphere
Regions of tropical cyclogenesis
NORTHERN HEMISPHERE, SEPTEMBER
26.5°C
26.5°C
26.5°C
26.5°C
GILBERT ISLANDS
26.5°C
26.5°C
26.5°C
SOUTHERN HEMISPHERE, MARCH

FIGURE 15

1.1.7 Droughts

The driest months are given by Sachet as October, then November and September.[21] However, the variation in both monthly and yearly totals is very high, and many years vary from 'normal conditions'. In fact the Gilbert Islands, with the exception of Butaritari and Makin, are frequently affected by drought, the cycle of which appears to be five to seven years.[22] The British Colonial Reports record drought conditions as follows:

Year	Duration
1917-1919	2 years
1925	9 months
1926-1927	1 year
1937-1939	3 years
1949-1951	1½ years
1954-1956	2 years

These droughts can be quite severe, with the average yearly rainfall dropping sometimes as low as 75mm in the central and southern islands.[23]

The recorded droughts can be given a more precise formulation using the de Martonne formula:

I = P/10 + T where
I = annual aridity index
P = annual rainfall in mm
T = annual average yearly temperature in deg.C

According to de Martonne, an aridity index of less than 20 is indicative of drought or near drought conditions. Thus, on the figures for Onotoa, drought or near drought conditions were experienced in 1934, 1938, 1945, 1947, 1950, and 1955, with aridity indices of respectively 13, 11, 18, 20, 4, and 11.

1.1.8 Micro-Climatic Effects

Detailed data on these effects are not available. However, several pertinent facts can still be ascertained.

(a) Shading Effect of Vegetation

Though vegetation, notably the coconut palm and to a lesser extent the pandanus tree cover the atolls in a dense forest (231 palms per hectare)[24] and hence provide a high degree of shading, density is not even over the land surface.

On the ocean side, salt spray damages the pinnules of the coconut trees, resulting in a much lower proportion of fronds per tree, usually less than twenty. Twenty-five to thirty is normal. This seriously affects their shade potential to a distance of about 50 metres back from the ocean side high-water mark, where the effect of the salt spray is no longer in evidence. From this point onwards the forest is dense across to the lagoon side.

Here, the coconut stands are much less dense than in the interior, even though the foliage is not affected by atmospheric conditions. The thinning in this case is caused by the road, which on all the atolls runs down the lagoon side, and by the settlements which extend a distance of about ten metres to either side of the road. The narrow strip of land between the road and the lagoon is usually the worst affected, the coconut palms here being more widely spaced than on any other part of the atoll. Unfortunately, therefore, though the coconut palm does present a hazard with its falling fronds and fruit, its shading effect is lost where it is most needed, around the settlement sites. This effect is most marked on the lagoon side of the road and along the strip of continuous settlement. To some extent, the settlement on the ocean side (easterly) of the road is protected, at least in the early morning, by the

central forest growth of palms, and during the day by those palms which lie to the west of it along the lagoon-edge strip.

The settlement on the lagoon (westerly) side of the road, however, is exposed to both the morning and afternoon sun.

Where settlement is discontinuous, the vacant plots are often covered by palm stands, but the high altitude of the equatorial sun generally implies that the settlements to the north and south of these plots receive minimal shading effect.

This unfortunate situation is relieved somewhat by the planting of pandanus, breadfruit, and paw-paw around the settlements and along the roadside. The shade of the breadfruit tree, which can grow to a height of 20 metres with a similar spread, is particularly beneficial. It is, however, not as commonly found on the southern islands as it is on the northern islands owing to its lack of resistance to drought and ground-water salinity.

The pandanus is commonly grown around most settlement sites and is also a reasonable shade tree. Its shading effect, however, would appear coincidental to the Gilbertese, who do not site these trees with this in mind.

Vegetation is seriously affected by environmental extremes found at the extremities of the atolls and along their narrow sections. Here, the ground level is noticeably lower than the bulk of the land mass and the top layer of sandy soil is generally very thin. This both prevents deep root penetration and brings the layer of salt-water close to the surface. In the areas adjacent to the channels where there is a tidal interchange of sea-water between ocean and lagoon, the land form is frequently unstable. Vegetation in these areas is generally sparse and easily affected by drought.

Finally, where hard substratum occurs, this also prevents deep root penetration so that any vegetation must rely on fresh-water reserves accumulated above the rock layer. This reserve is quickly depleted in times of drought, resulting in a lowered vegetation density and corresponding drop in shade capacity.

(b) Wind Barrier Effect of Vegetation

Though days of calm are rare, and most months throughout the year bring north-east to south-east trade winds, the particular orientation of the Gilbert atolls on the north-west / south-east exposes the ocean beach to these cooling breezes whilst the lagoon beach is sheltered. See figure 2. Though the foliage of the coconut palms is high, at an average of 10 - 15 metres, the trunks of these palms and the secondary vegetation effectively prevent the free passage of wind from the east side across to the lagoon beach. This secondary vegetation, mostly Scaevola (2 - 4m), Messerschmidia (2.5m), Pandanus (5 - 10m), Guettarda (3 - 5m), and Morinda (3 - 5 m), forms a thick forest about 50 metres inland from high-water mark. Though temperature data were not recorded, the difference between comfort levels over the first fifty metres and after is remarkable. The wind velocity drops to almost zero and the discomfort owing to the high humidity and temperature is most marked. Where the land mass is at ninety degrees to the prevailing breeze, the leeward lagoon side receives almost no wind. According to the experiments of Stockeler and Williams, with the wind barriers, the prevailing breeze would only return to full strength at a distance of some 400 metres out to sea on the lagoon side of the atolls. Thus, of the north-easterly, easterly, and south-easterly winds, only the south-easterly would provide any ventilation to the lagoon side of Onotoa, and that to only a small section near Otoae.

(c) Ground Cover

Ground cover throughout Gilbertese settlements is coarse coral shingle, especially collected from the ocean beach and placed around the individual houses. This shingle is near white in colour when first collected but turns grey after a period of 6 - 12 months owing to discolouring from the dark earth on which it is placed.

This ground cover has two important effects in relation to micro-climate. Firstly, short-wave radiation from the sun is reflected back to the atmosphere and adjacent buildings. The Smithsonian Tables place this reflection at 48% for new gravel dropping to 25% for older gravel. Though specific data are not available, this effect is obviously detrimental in tropical areas where any rise in air temperature is undesirable.

Secondly, the ground cover, heated by solar radiation, rises to temperatures approximately 15 - 25% higher than the adjacent air temperature.[25] This heated ground cover emits long-wave radiation. The effect of this radiation is again difficult to measure, as it depends on the adjacent materials and the temperature differences between them. Nevertheless, the effect is also evidently detrimental in tropical areas. The absorptivity and resultant temperature increases of the ground cover will increase with the age and darkened colour of the shingle. Thus, even though the reflectivity of the ground cover decreases with age, this advantage is offset by the increase in absorptivity.

(d) Glare

Glare, that is, any brightness which causes discomfort or interference with vision, is difficult to assess quantitatively. However, certain specific determining factors have been established:[26]

1. Source brightness

The higher the source brightness, the greater will be the discomfort and the interference with vision. The bright skies in the Gilbert Islands, whether clear or cloudy, are a particular source of glare. This brightness is also reflected off the surface of the lagoon, sand beaches, and roads, and the coral-shingle house surrounds.

2. Source size

A large area of low brightness can be as uncomfortable as a single source of higher brightness. The open nature of the houses, the proximity of sea and beach, and the large proportion of sky-dome which is exposed by the flat topography make these glare sources of not only high brightness but also large surface area.

3. Source position

Glare decreases rapidly as the source is moved away from the line of vision.

4. Brightness contrast

The greater the brightness contrast between a source of glare and its surroundings, the greater the glare effect. The clear skies and high sun altitude make for very distant and sharp shadows in the Gilbert Islands. Consequently, brightness contrast is severe, and the effect of glare particularly noticeable.

(e) Dust

The road which runs through the settlements is covered by

a layer of fine coral sand. However, the low wind velocity, even in times of drought, does not disturb this dust layer. In 1976 a truck was introduced to the island of Onotoa, and there are three motorcycles. These are beginning to cause a problem. After a period of rain, their tyres turn the road surface into a 25 - 100mm layer of coral mud which rapidly dries into a layer of fine dust. The subsequent passage of vehicles throws this dust up into clouds which are easily carried to the houses, uninterrupted by vegetation which is rarely found between the houses and the road. The problem reaches significant proportions on Tarawa where the flow of traffic is almost continuous.

(f) Salt Spray and Atmospheric Moisture Content

The fact that almost no part of the land surface is more than 1 km from the ocean beach, and that the prevailing breezes blow from the surf across the land, results in the entire island being covered in a fine layer of salt. Anything of metallic nature is rapidly corroded. Similarly, the high humidity and moisture content from the surf spray contribute to fungus growth and mould and the more rapid decomposition of the fibrous materials used in the manufacture of artifacts.

(g) Smoke

Whereas every Gilbertese household prior to European contact had at least one fire burning constantly, the introduction of matches and mosquito nets has obviated the need for this. Fires are now only lit when required. Furthermore, the coconut husk, which is the principal timber fuel, burns with little smoke after initial ignition is complete. Thus, even though households are now much closer together than they were prior to European contact, the reduction in the usage period of cooking and insect-repelling fires has avoided the problem of smoke pollution which cooking at

close quarters could have produced. Curing of foodstuffs and copra drying is all done by sun-drying techniques; smoke drying is unknown. The periodic clearing of undergrowth by burn-off as recommended by the Department of Agriculture is not carried out enthusiastically, and is done only over small isolated areas. Household rubbish and leaves are burned off every few days in the vicinity of the household but cause no serious pollution. The occasions when smoke does present a problem are thus infrequent and extend over only short periods of time.

1.1.9 Gilbertese Meteorology

Based on their astronomical observations, the Gilbertese year was divided into two main seasons, each with eight sub-divisions called bong. Grimble, working from her father's field notes, lists these seasons with their corresponding Western calendar dates as follows:[27]

Season of Te Auti

1. Te Kunei	late Nov....8 Dec
2. Nango-teaina	9 Dec.....31 Dec
3. Nango-uaai	1 Jan.....23 Jan
4. Nango-tenai	24 Jan.....15 Feb
5. Tukabu-n-auti	16 Feb.....10 Mar
6. Buro	11 Mar.....1 Apr
7. Aibwea	2 Apr.....24 Apr
8. Katoki-n-atuna	25 Apr.....early Jun

Season of Rimwimata

1. Batano	early Jun... 20 Jun
2. Te Bubutei	21 Jun.....12 Jul
3. Te Mantoa	13 Jul.....4 Aug
4. Baingungu	5 Aug.....27 Aug
5. Mannawawa	28 Aug.....19 Sept

6. Nimaunauna	20 Sept.....12 Oct
7. Toatoa	13 Oct.....4 Nov
8. Rube-ma-te-ite	5 Nov.....late Nov

The accuracy in seasonal dates stems from their derivation from the celestial movement of the two stars Nei Auti (Pleiades) and Rimwimata (Antares), which lie within 10° of each other in the celestial dome of each season. These seasons and their sub-divisions were correlated by the Gilbertese with seasonal weather patterns and bore relevance to both agricultural and sea-faring practice.

In general, the season of Nei Auti was considered a bad time for sailing. This was the season of unpredictable winds, sudden squalls, dangerous seas, and treacherous reef passages.

Conversely, the season of Timwimata was the good sailing season with steady easterly to south-easterly (angma-maiaki) winds blowing and seas relatively calm.

In more detail, Te Kunei, and Nango Teaina, Uaai, and Tenai were foul-weather bong, during which time navigation was hazardous. Tukabu-n-auti (lit. the fair weather of Auti) signalled the beginning of the safe sailing period. Buro (lit. cast off the cable, i.e. set to sea) signified that the safe sailing period had set in. The same applied to the bong of Aibwea. Katoki-n-atuna (lit. cause the head to stop) referred to the constellation of Nei Auti's descent to the western horizon where its 'head' struck the side of heaven. The noise so produced referred to the sound of distant thunder which frequently occurred at this time. It signalled the beginning of a period of increased storm activity and variable winds, though not as severe as those which accompanied the first bong of this season.

The bong of Batano, Baingungu, and Mannawana are not trans-

lated by Grimble, nor could any translatioin be arrived at by informants on Onotoa. It was agreed, however, that the fair sailing period which began with Tukabu-n-Auti continued through to Mannawawa. Minanauna (lit. disappearing) referred to the manner in which canoes were lost to sight behind the short, rough seas which began at this time, and signified the closing stages of the fair weather period. Toatoa does not refer to weather periods, but Rube-ma-te-iti (lit. twinkling of the lightning) signifies the arrival of the foul-weather period. This brought frequent squalls and unpredictably strong westerly winds continuing through to the season of Nei Auti.

From this analysis it is evident that Gilbertese meteorology, though never recorded but built up from observation over the centuries, was in substantial agreement with Western statistics. Both models divide the year as follows:

Month	Rain		Wind	
	likely	unlikely	light constant trades	strong variable westerly
J		*		*
F		*		*
M	*		*	
A	*		*	
M	*		*	
J		*	*	
J		*	*	
A	*		*	
S	*		*	
O		*		*
N		*		*
D		*		*

1.2 TOPOGRAPHY

(a) Introduction

The description contained in this section relates specifically to the island of Onotoa, the island on which fieldwork was carried out during 1975-76.

(b) General Physical Description

Onotoa, the southernmost of the eleven atolls in the group, conforms to the typical pattern of a Pacific atoll. The basic structure is a circular reef platform set on a pedestal of a submarine peak, and enclosing a lagoon. The windward reefs have been built up into land platforms which form a chain of islets of varying size interspersed among passages through which the ocean and lagoon waters meet. See figure 16. Some of these passages are exposed at low tide, and on Onotoa it is possible to traverse the entire length of the island from Aonteuma to Tebuarorae at low tide on foot.

The land area of Onotoa is 1345 hectares and the lagoon area 5340 hectares. The distance between Aonteuma and Tebuarorae is approximately 22.5 km. The lagoon is quite shallow and consists of three major basins.[28] The southern basin covers the largest area and is the deepest, averaging 6 fathoms. The central basin is an average of 4 fathoms deep and the small narrow northern basin only 3 fathoms.

The average tidal range is 1.34 m and the spring range is 1.8 m.[29]

The lagoon is dotted with numerous patch reefs which rise to, or close to, the surface. The larger of these, most common in the southern basin, are marked in figure 16.

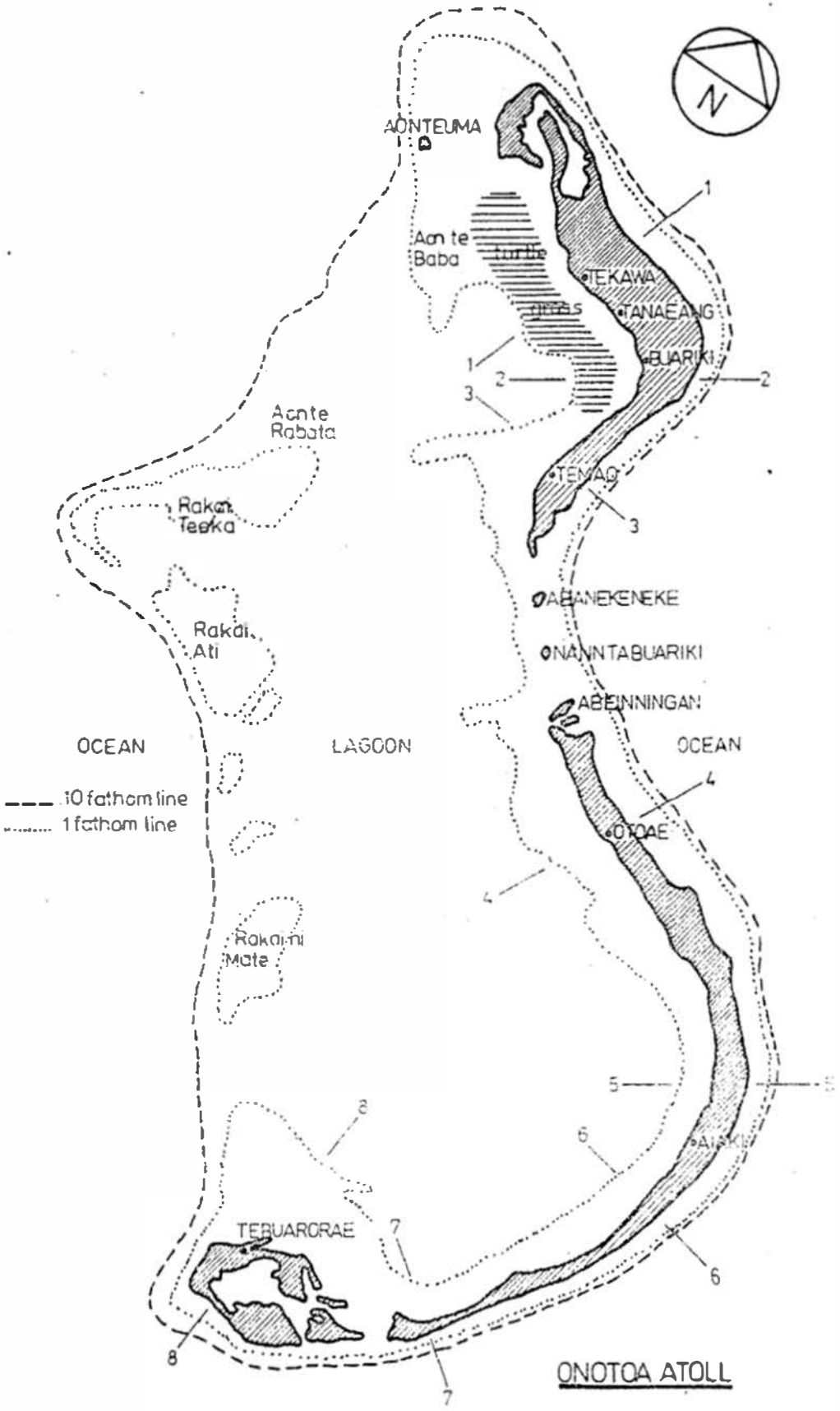

N
AONTEUMA
Aonte Baba
turtle
grass
TEKAWA
TANAEANG
BUARIKI
Aonte Rabata
TENAO
Rakai Teeka
Rakai Ati
ABANEKENEKE
NANNTABUARIKI
ABEINNINGAN
OCEAN
LAGOON
OCEAN
10 fathom line
1 fathom line
OTOAE
Rakai-ni Mate
AIAKI
TEBUARORAE
ONOTOA ATOLL

FIGURE 16

(c) Topography

The maximum elevation above sea-level on Onotoa is nowhere greater than 2 - 3 metres but there is a characteristic topography in cross-section from ocean to lagoon.

Islets occur where the reef platform is sufficiently wide, at a distance back from the windward reef front which is determined by the force of local storm waves. The width of the islets which together comprise Onotoa varies from only a few metres at their extremities, to 700 at their widest points.

Topographical Profiles

The easternmost point of the profile is the coralline ridge and its dispersed surge channels which drop off steeply into the ocean proper. The outer edge of this ridge is thus the line of low tide along the eastern side of the atoll.

Between this ridge and the island proper is the reef flat, exposed at low tide. This reef flat is composed of dead corals and is covered by a thin layer of mud and debris, with occasionial coral boulders wrenched off the outer ridge and deposited on the flat by storm waves. This flat can be as wide as 500 - 600 metres.

Wave action at high tide deposits coral debris which, over the millennia, has formed a steep rampart on the eastern side of the island. This rampart consists of a sub-layer of limestone gravel of coral origin overlaid with a varying depth of topsoil. The eastern face of this rampart varies along the length of the island. Generally it consists of either beach sand, fine gravel, coarse gravel, or boulders. The boulders are commonly found at the extremities of the islets, while the central beaches are characteristically

beach sand and fine gravel. Dividing the eastern length of the atoll into a number of small beaches are low rocky headlands lying on average some 150 metres apart.

From the rampart, the western face slopes away gently to the east with elevations in the centre of the island reaching as low as 50 centimetres. Man-made depressions are common in this area. Deep pits, used for growing babai (Cyrtosperma chamissonis), range from ten to several hundred square metres in area, and the enormous volume of earth which has been extracted forms large mounds which rise up to three metres above the surrounding terrain.

From this point westward, the ground surface rises gradually to the lagoon shore, though not reaching the same elevations as the eastern beach front.

At first the lagoon slopes very gently, and, except that it is generally covered in a thick layer of sand and mud, is similar to the eastern reef flat and extends approximately the same distance out from dry land.

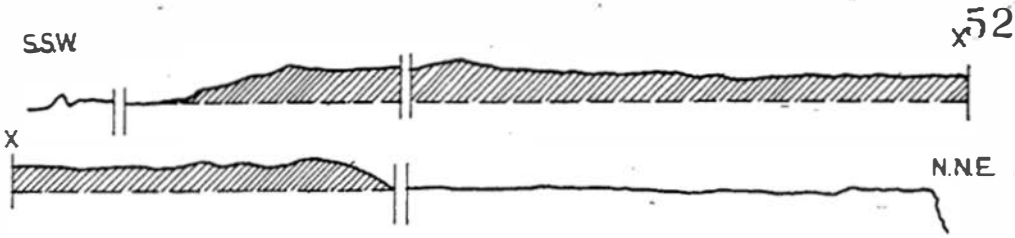
The lagoon floor then drops more steeply, reaching depths of 3 - 6 metres, interrupted by coral heads, shoals, and reefs which rise to varying heights.

On the leeward verge of the atoll, the main reef platform again rises to the surface before dropping steeply to the ocean bed. Sections of this reef are exposed at low tide.

A typical topographical cross-section of Onotoa is given in figure 17.

1.3 SOILS

Catala[30] and Cloud[31], having submitted soil reports, the latter being specific to Onotoa, no soil analysis was carried



Profile 1

Profile 2

Profile 3

Profile 4

Profile 5

Profile 6

Profile 7

Profile 8

FIGURE 17

out by the author. Salient features of their surveys are summarised below.

(a) General

The land surface on Onotoa is primarily unconsolidated sand and gravel; in a normal soil analysis, no further differentiation would be required. However, owing to the small land area, a detailed differentiation is more explanatory, especially with regard to the distribution of vegetation.

All sand, gravel, and the occasional solid rock is entirely calcium carbonate. The other major soil component is organic matter, deposited by vegetation.

(b) Distribution

Cloud[32] distinguishes six main soil types for Onotoa:

(i) loose limesands with a well-marked humus layer
(ii) loose limesands without a humus layer
(iii) tight-packed limesilts
(iv) indurated limesands
(v) coarse coralliferous gravel
(vi) coralliferous pebble gravel

In addition, the beach area is sub-divided:

(vii) sand beach
(viii) gravel beach
(ix) boulder beach
(x) beach rock

The distribution of these soils is given in figure 18.

(c) Profiles

Catala illustrates soil profiles which correspond with (i),

(iii), and (vi) in Cloud's classification.[33] The coralliferous pebble gravel is illustrated in the manner in which it occurs in profile on the leeward slope of the ocean rampart, that is, with a fine layer of organic matter on the surface. See figure 18.

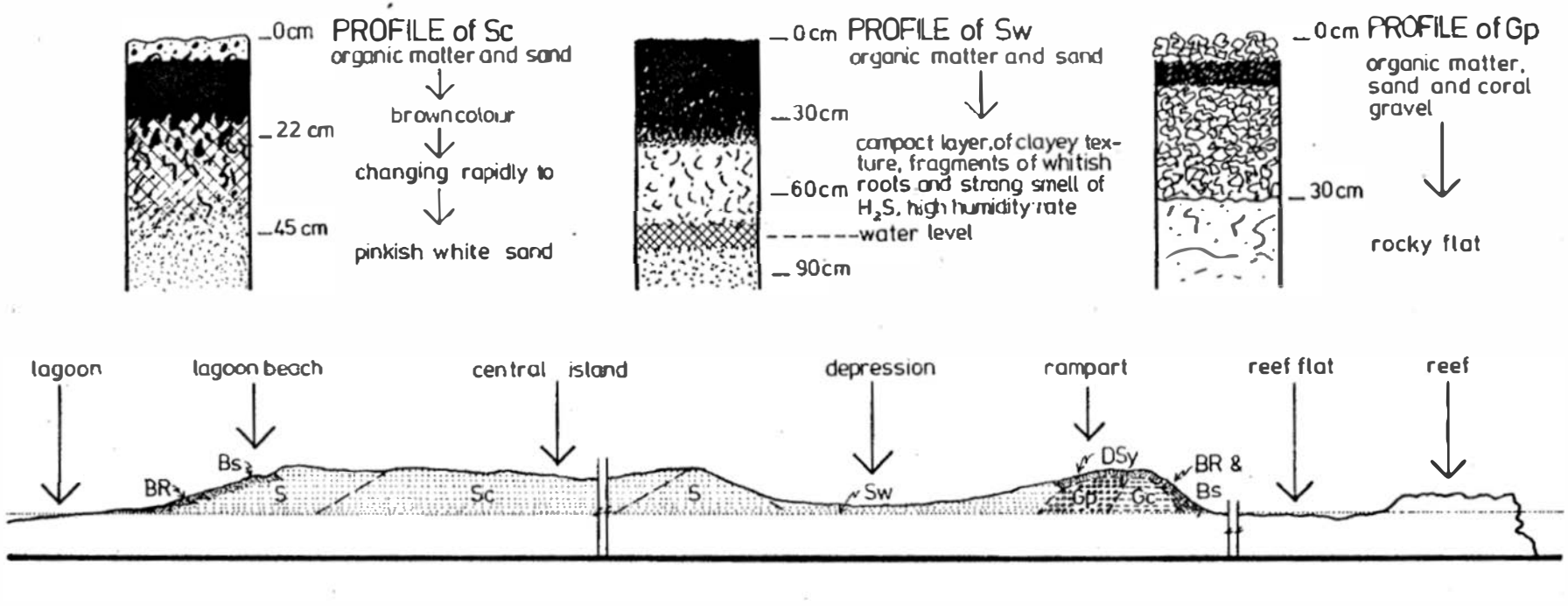
Though all soil profiles are of poor quality, comparatively, the soil Sw is good quality for an atoll soil and is associated with dense coconut stands and high fruit yields. On the same basis, the soil Sc is of medium quality and the soil Gp of very poor quality. An approximate distribution of the various soil types on the northernmost of Onotoa's islets is given in figure 19.

1.3.1 Gilbertese Soil and Land Classification

(a) Soil Types

The Gilbertese recognise a number of soil types and name them. These different soils are related to specific agricultural practices, and the use of appropriate soils for them. Geddes[34] and Catala[35] supply the following list of Gilbertese soil types, which informants on Onotoa confirmed but were unable to enlarge upon.

(i) Te tano - generic name for earth, ground, etc.
(ii) Tanomaere - sand of greyish colour, having small admixture of humus
(iii) Tanobon - sand with high percentage of humus (te bon is humus which is found under the Uri tree, Guettarda)
(iv) Tanobike - sand with some humus but close to beach sand
(v) Tanouea - reddish sand found underground, usually just above the hard-pan of rock (te ba), which is a compacted layer of sand just above the water lens
(vi) Te bike - beach sand



Sc(i) Loose limesands with &S humus

DSy(ii) Loose limesands without humus

Sw(iii) Tight packed limesilts

BR(iv) Indurated limesands

Gc(v) Coarse coralliferous gravel

Gp(vi) Coralliferous pebble gravel

Bs(vii) Beach sand

BR(viii) Gravel beach

(ix) Boulder beach

(x) Beach rock

FIGURE 18

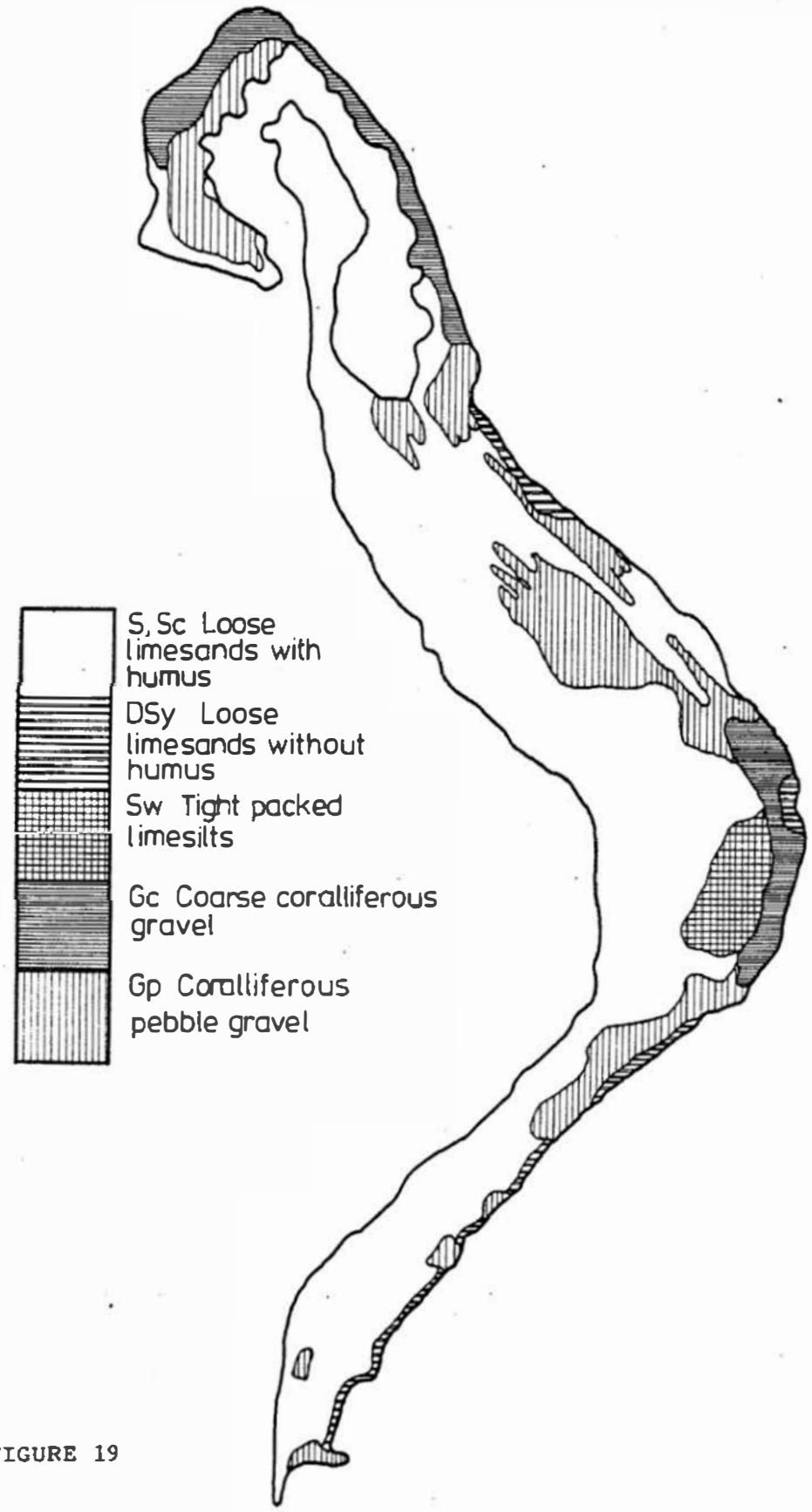

S, Sc Loose limesands with humus
DSy Loose limesands without humus
Sw Tight packed limesilts
Gc Coarse coralliferous gravel
Gp Coralliferous pebble gravel

FIGURE 19

(vii) Te batano - layer of almost clayey consistency
(vii) Te nari - hard layer, impenetrable to roots
(ix) Te kara - coral fragments
(x) Te-ian-uri - humus found below the Uri tree
(xii) Te riburibu - sulphur-smelling mud

(b) Land Classification

The list of soil types given above should not be regarded as a native classification of soils. The native classification of lands has two dimensions.

Firstly, a native land-holder will classify his lands relative to other of his lands, but not in relation to the lands of the island as a whole. Thus, those lands which one land-holder classifies as 'good' may be only 'medium' or even 'poor' in the terms of another land-holder. An individual's lands are usually classified according to past production rather than future potential, and also in relation to the plant being grown. Thus, lands which give a good coconut yield in dry weather may be classified as good dry-weather lands, and those lands which, though never giving a high yield, do give an average yield throughout all weather conditions, may also be classified as good lands. Similarly, lands where pandanus are found to be productive may be classed as good pandanus lands.

Secondly, classification can be based on size regardless of economic potential. In fact, in some cases, even area is subjugated to the criterion of length. Thus, a plot of land may be termed 'good' if it is long, even if it is only a metre or so wide, whilst lands of larger area but a shorter longitudinal dimension may not be so highly prized. To some extent, this can be explained by the variation in soil quality across the island. Because of this, a long strip of land, no matter how narrow, is always likely to contain some sections of fertile soil, whilst a plot

of greater area but which only extends a short distance across the island may be almost entirely unproductive.

Nevertheless, size, even in defiance of fertility, is still an admirable quality. This attitude has undoubtedly sprung from the fact that land has always been a very limited resource, despite the fact that high yields are of great economic importance. Two instances of land disputes were recorded where this fact was very much in evidence. In both instances, one from Onotoa and one from Nonouti, the land-holders took action to recover very large parcels of almost entirely unproductive land situated along very narrow strips of the respective islets, despite the fact that both land-holders had been offered smaller but definitely more productive plots closer to their places of abode.

The relative 'value' of land is further complicated by the question of ancestry which is discussed in detail in the main body of the thesis.

1.4 HYDROLOGY

Because of the small size, low elevation, and the porosity of the coral bedrock of atolls, there are no surface streams on the islands. However, this same narrowness of land form, and the porosity of the coral bedrock, cause the subterranean rock to be infused with salt water from the ocean. The level of salt water within the rock rises and falls with the tides, though not to the same extent.

Fresh water from rain falling on the atolls soaks through the porous surface soil, and, owing it its lower density (fresh water 1.00; salt water 1.025), this water forms a lens hydrostatically balanced over the salt water barrier. This lens is known as the Ghyben-Herzberg lens. As fresh water and salt water are miscible, so a zone of mixing occurs. This fresh water lens, apart from small amounts

which may be collected from coconut palm fronds and trunks during actual precipitation, is the only source of fresh water on the islands. See figure 20.

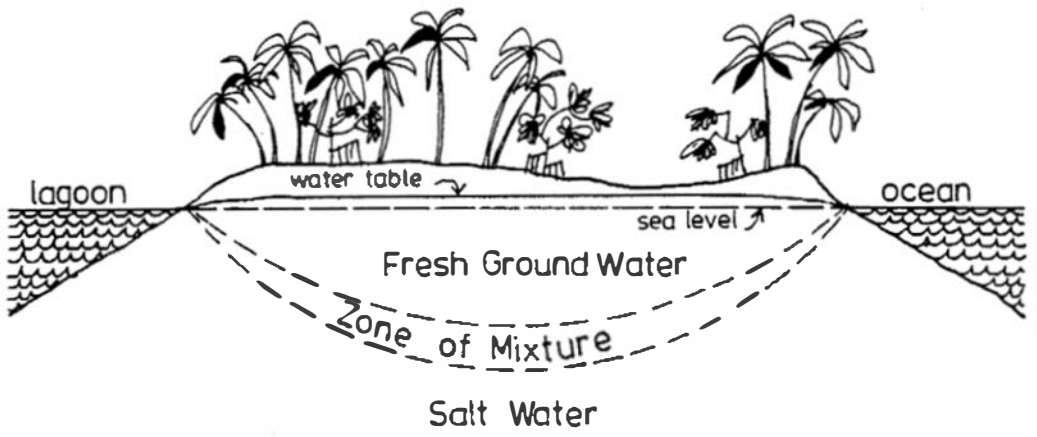


FIGURE 20

The upper surface of the lens occurs at variable depths according to the height of the islands, and the relative abundance of rainfall and the frequency of droughts. It is to this depth that both cultivation pits and wells must be excavated. The level also varies with the tides, and Cloud[36] records a variation of some 42 cm for a 120 - 150 cm interstitial variation.

In theory, the salinity of the fresh water decreases from both ocean and lagoon beaches towards the centre of the island. In practice, however, because of variations in openings, passageways, and the permeability of the island foundation, fresh water can occasionally be found quite close (within 50 metres) to both lagoon and ocean beaches.

Catala[37] tested eight experimental wells for presence of chloride ions (Cl^-) measured in parts per thousand of solution, over a three hundred metre width of island.

Catala[38] and Cloud[39] both conclude that, for islands over 300 metres in width, central wells continue to supply potable water except in the most serious droughts. Close to the beaches, on small islands, or along the narrow stretches of larger islands, the fresh water lens will tend to be shallow and brackish and water may only be suitable for washing. Water collected at low tide or during the following hour (owing to time lag) may also be more brackish than that collected at high tide or immediately after.

1.5 VEGETATION

(a) Introduction

Prior to the commencement of field-work in 1976, both Catala and Moul[40] had reported extensively on the flora of the Gilbert Islands and Onotoa in particular. These works were used to identify the forty-one species named by Onotoan informants and to notate their date of origin, physical characteristics, and local distribution. In addition, a native classification was collected from Onotoan informants to supplement the existing reports.

(b) Origin of Vegetation

The vegetation as it exists today has not always been present but represents three distinct phases of development.

Prior to human occupation, approximately half the presently existing species were introduced as seed carried by the trade winds, ocean currents, and birds. These species are classed as Group 1. Most of these plants were not a food resource.

With human occupation, a number of new species were introduced by the immigrants. These plants were probably to be used as both a food resource and for ritual purposes.

These species are classed as Group 2.

A third group of plants has been introduced over the last two hundred years, representing the phase of Western contact. These species are classed as Group 3.

(c) Distribution

The Gilbertese, during their period of occupation of the Gilbert atolls, have almost entirely transformed the vegetation distribution from what must have existed prior to their arrival. Two plants of high food potential, the coconut palm and the pandanus, have been cultivated wherever possible and the original species have tended to be relegated to areas where neither the coconut nor the pandanus could survive. As a result some of the less hardy of these species have almost totally disappeared, existing only in isolated groves amongst the coconut palms.

Having made this point, it is important to note that the word cultivate is used with caution. Whilst the coconut palm is by far the most prevalent species on the atoll, and is the plant of highest economic potential, nowhere is it actually planted by the Gilbertese. Though undoubtedly its initial introduction must have required conscious cultivation, all the coconut palms in existence today have grown where the nuts from previous palms have fallen. The extent of the Gilbertese cultivation of the coconut palm has only extended as far as the occasional clearing of other species from areas where coconut palms were productive, but has never included any kind of organised planting or land improvement. It is thus only the extended period of human occupation of the atolls which has allowed the coconut palm and the pandanus to gradually extend their coverage of the island to the extent which they now maintain.

The following is a summary of the flora of Onotoa based on the works of Catala and Moul[41] and extended where necess-

ary by the author.

The distribution of the most common flora (ground covers and grasses not included) for the island of Onotoa is given below. See figures 21 and 22.

Genus	English Name	Gilbertese Name	Origin	Height	Notes
Artocarpus altilsis	Breadfruit	Te Mai	II	5-20cm	A fast growing plant commonly grown in villages - no resistance to drought.
Boehavia diffusa and tetranda		Te Wao and Te wao ni-anti	I	creeper	Commonly occurring ground cover
Cassytha		Te Ntanini	I	creeper	Parasitic plant found around shrubs and trees
Cocos nucifera	Coconut palm	Te Ni	II	20m	Prefers a light deep soil to enable the development of a good root system. Requires an average humidity and rain-fall in addition to ground-water supply. Can resist some salinity in groundwater. Trees near lagoon lean out-wards owing to a tropism to light. Highest density is in centre of island on limesand soil where protected from salt spray and artificial clearing. Tallest trees grow in this area. Affected by drought particularly those palms at extremities of islands, along narrow strips of islands, and where the topsoil layer is thin. Fruit of trees in other areas is affected but trees generally survive.
Cyrtosperma chamissonis	Te Taro	Te Babai	II	3.5m	Tuberous plant found in babai pits

Genus	English Name	Gilbertese Name	Origin	Height	Notes
Eleocharis geniculata		Te Maunei	III	small plant	only found in babai pits
Euphorbia chamissonis		Te Tarai	I	30-40cm	Ground cover
Ficus tinctoria	Fig	Te Bero		4-7m	
Fimbristylis cymosa		Te Ute-ute ni mane	II	herbal grass	Ground cover in central areas
Guettarda speciosa		Te Uri	I	6m	Very common, one of main central island components
Jussiaea suffruticosa	Willow	Te Mam	II		Weed in babai pits
Lepturus repeus			I		A grass along dunes and creeper-like in interior
Messerschmidia midia argentea		Te Ren	I	2-5m	Common as scattered groups of trees and sparse foliage along both ocean and lagoon beaches
Morinda citrifolia		Te Non	II	3-5m	Common on most islands
Pandanus tectorius	Pandanus	Te Kaina	II	10-15m	Common across islands, extend further than coconut palms owing to hardiness and resistance to salinity
Pemphis acidula		Te Ngea	I	2-4m	Common, dense stands near sandy areas and mangroves

Genus	English Name	Gilbertese Name	Origin	Height	Notes
Phyllanthus		Te Kai-matu	III	low herb	Scattered cover
Portulaca lutea	Purslane	Te Mtea	I	creeper	Very common
Premna obtusifolia		Te Ango	I	5-15m	rare
Rhizophora micronata	Mangrove	Te Tongo	I	4-10m	Lagoon side and alongside channels of islets
Scaevola		Te Mao	I	2-4m	Most abundant shrub, found everywhere from ocean to lagoon
Sida fallax		Te Kaura	I	3-5m	Common, especially in open or cleared areas
Stenotaphrum micranthum			II		Common grass
Terminalia catappa		Te Kunikun	II	15m	Rare
Triumphetta		Te Kiaou	I	creeper	Open places with plenty of sun
Pisonia grandis		Te Buka	I		
Cordia subcordata		Te Kanawa	I	5m	Rare, but along shores

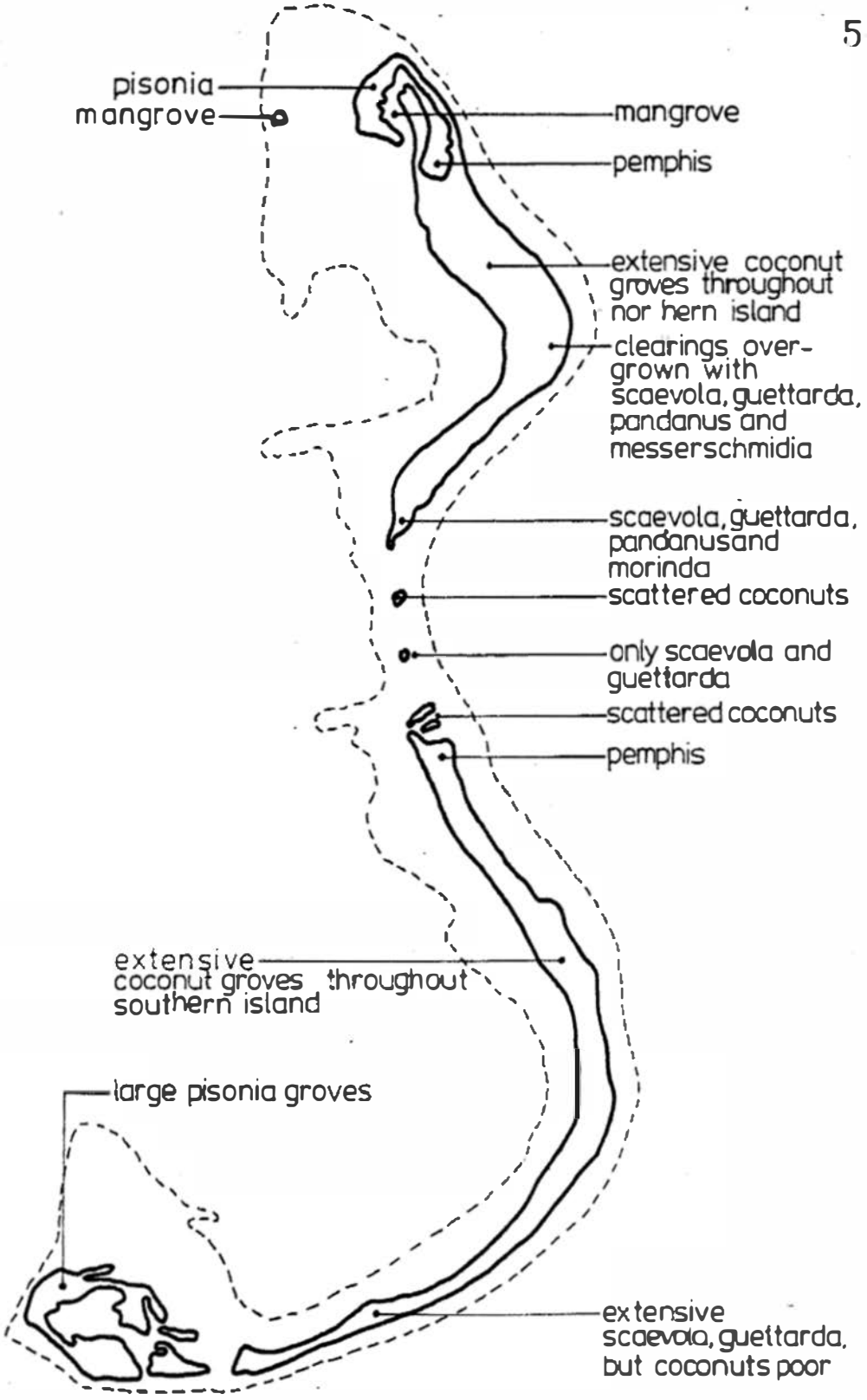

pisonia mangrove
mangrove
pemphis
extensive coconut groves throughout nor hern island
clearings over-grown with scaevola, guettarda, pandanus and messerschmidia
scaevola, guettarda, pandanusand morinda
scattered coconuts
only scaevola and guettarda
scattered coconuts
pemphis
extensive coconut groves throughout southern island
large pisonia groves
extensive scaevola, guettarda, but coconuts poor

FIGURE 21

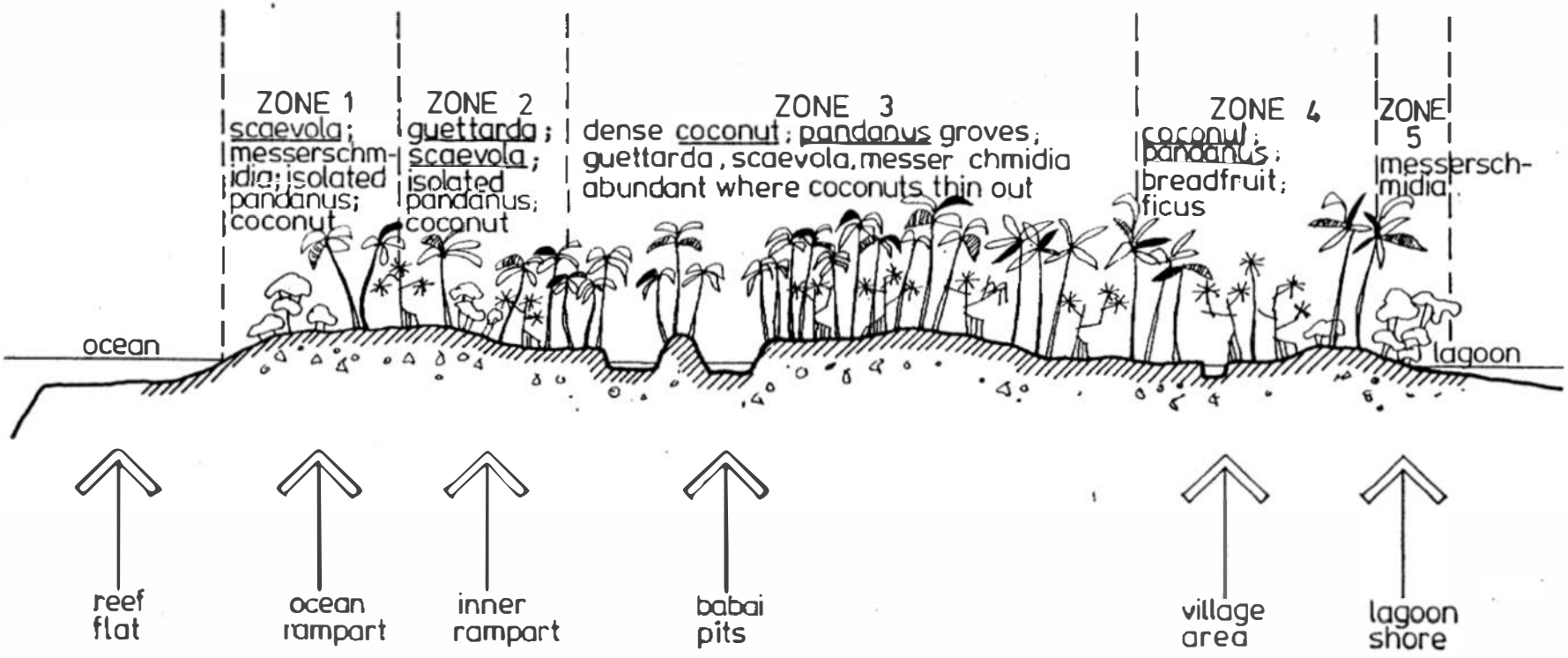

ZONE 1
scaevola; messerschmidia; isolated pandanus; coconut
ZONE 2
guettarda; scaevola; isolated pandanus; coconut
ZONE 3
dense coconut; pandanus groves; guettarda, scaevola, messer chmidia abundant where coconuts thin out
ZONE 4
coconut; pandanus; breadfruit; ficus
ZONE 5
messerschmidia
ocean
lagoon
reef flat
ocean rampart
inner rampart
babai pits
village area
lagoon shore

FIGURE 22

1 E.Doran,'Report on Tarawa Atoll, Gilbert Islands', *Atoll Research Bulletin*, 72, 1960, p. 11.

2 M-H. Sachet, 'Climate and Meteorology of the Gilbert Islands', *Atoll Research Bulletin*, 60, 1957, p. 1.

3 R.L.A. Catala, 'Report on the Gilbert Islands: Some Aspects of Human Ecology', *Atoll Research Bulletin*, 59, 1957, p. 2.

4 The Great Britain Meteorological Office, *Tables for the World*, London.

5 Sachet, *op. cit.*, p. 6.

6 *Ibid.*

7 The Great Britain Meteorological Office, *op. cit.*

8 Sachet, *op. cit.*, p. 2.

9 C, Mahoney

10 Comfort zones, the limits of which vary slightly with each research study, can be briefly defined as the range of combinations of temperature and humidity in which humans feel comfortable.

11 Figures are given by Sachet, Catala, and the Great Britain Meteorological Office.

12 Sachet, *op. cit.*, p. 1.

13 Bowditch, in *Climatological and Oceanographic Atlas for Mariners*, n.d.

14 *Ibid.*

15 Sachet, *op. cit.* p. 6.

16 British Colonial Reports, *Gilbert Islands Report*, 1460, 1929.

17 Gilbert and Ellice Islands Colony, *Blue Book*, 1940-41.

18 Gray, in *Climatological and Oceanographic Atlas for Mariners*, n.d.

19 *Ibid.*

20 United States Hydrographic Office, *Weather Summary for H.O.*, 272, Washington, 1943.

21 Sachet, *op. cit.*, p.3.

22 British Colonial Reports, *Gilbert Islands*, 1369, 1928.

23 *Ibid.*

24 Catala, 'Report on the Gilbert Islands', p. 50.

25 V. Olgyay, *Design with Climate*, N.J., 1963, p. 34.

26 *Westinghouse Lighting Handbook*, N.J., 1963, p. 4-2.

27 A. F. Grimble, *Migrations, Myth and Magic from the Gilbert Islands*, p. 224.

8 P. E. Cloud, 'Preliminary Report on Geology and Marine Environments of Onotoa Atoll, Gilbert Islands', Atoll Research Bulletin, 12, 1952, p. 6.

29 *Ibid.*, p. 19.

30 Catala, *op. cit.*

31 Cloud, *op. cit.*

32 *Ibid.*, p. 22.

33 Catala, *op. cit.*, p. 5.

34 W.H. Geddes, *North Tabiteuea Report.*

35 Catala, *op. cit.*, p. 6.

36 Cloud, *op. cit.* p. 31

37 Catala, *op. cit.*, p. 8.

38 *Ibid.*

39 Cloud, *op. cit.*, p. 15.

40 E. T. Moul, 'Preliminary Report on the Flora of Onotoa Atoll, Gilbert Islands', *Atoll Research Bulletin*, 57, 1957.

41 *Ibid.*

appendix 2

GILBERTESE MEASUREMENT SCALES

2.0 GILBERTESE MEASUREMENT SCALES

2.1 Measurement System for Housing, Canoe Parts, Fish and Other Edibles

one finger width	te aina ni bai
two fingers	uaii ni bai
three fingers	tenai ni bai
four fingers	aii ni bai
thumb and four fingers	nimai ni bai
fingertip to wrist	te raurau ni bai
fingertip to elbow	te manoku ni bai
fingertip to shoulder	te a ni bai
fingertip to middle of chest	te bwenawa
fingertip to other shoulder	te anganga uoua
fingertip to other elbow	te buki ni bai
fingertip to fingertip and in such increments	te nga, uanga, etc.

Diameters of these items are indicated by the thickness of leg, chest, arm, neck, etc.

2.2 Measurement System for Sleeping Mats and Other Flat, Small Objects

Spread of thumb outstretched to index finger outstretched:

once	te rakana
twice	uaraka
three times	tenraka
four times	araka
five times, etc.	nimaraka, etc.

appendix 3

KNOTS USED IN CONSTRUCTION

3.0 KNOTS USED IN CONSTRUCTION

3.1 Te Bukininai

This knot gets its name from the fish, te inai, which has crosses on its scales similar in form to the appearance of one side of the knot. It can be used in all structures, from bata to maneabá. It is commonly used for tying the oka and the kainta. Once a particular knot has been chosen for joining any two timbers, for example, a kainta and an oka, then it and no other knot should be used wherever that joint occurs throughout the structure. In addition, the knot should be tied in the same orientation on each of these occasions. The bukininai is illustrated in figure 1.

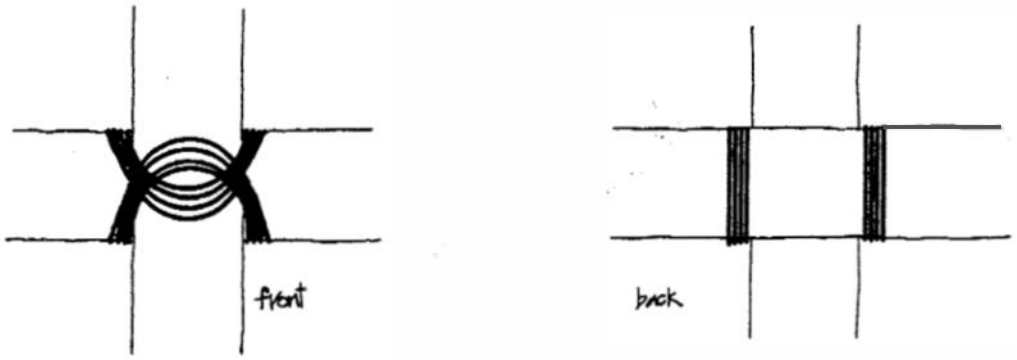


FIGURE 1

3.2 Te Itoi Tabara

The itoi tabara derives its name from its star shape (te itoi = star). The knot is used for tying the oka to the tatanga. When used in the maneaba, it should be used for tying the oka to both the first and second tatanga. It should always be tied with the star shape on the tatanga facing the inside of the building. See figure 2.

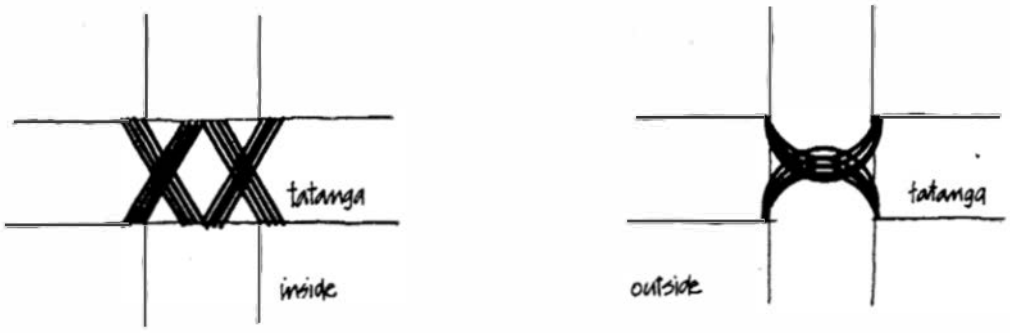


FIGURE 2

3.3 Te Bae ni Bwebwe

The bae ni bwebwe derives its name from its butterfly wing appearance (bwe bwe = butterfly). It is used for tying the bukinikai to the kai-ni-kakari. As this joint occurs along the eaves, the knot serves to hold the bukinikai at the end of the kai-ni-kakari, and also to place some soft material at this point where, on entering a bata, one's head is very close to the eaves. See figure 3.

FIGURE 3

3.4 Method of Attachment of Tatanga to Bouriki

The tatanga is normally not tied to the bouriki but merely rests across it, held in place by the weight of the roof. However, a method sometimes used which does tie the tatanga down is illustrated below in figure 4. The knot is essentially a bukininai.

FIGURE 4

3.5 Te Bautim

The bautim is only used for tying tatanga to one another in maneaba construction. It is not used in domestic construction. See figure 5.

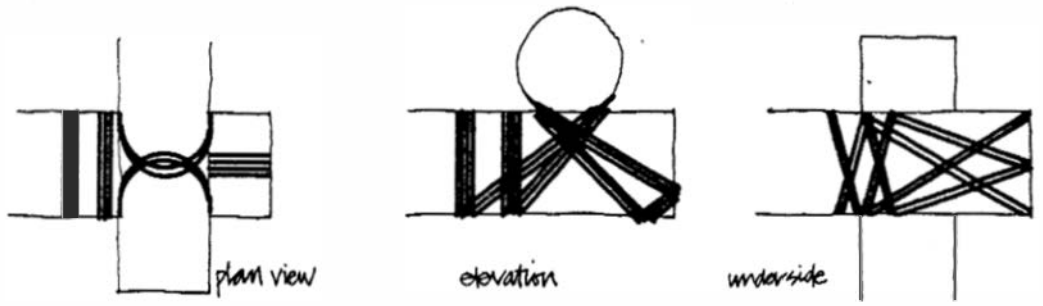


FIGURE 5

appendix 4

LANDPLOTS OF NORTHERN ISLET, ONOTOA

4.0 LIST OF NAMED LAND PLOTS ON THE NORTHERN ISLET OF ONOTOA ATOLL: LISTED IN ORDER FROM NORTH TO SOUTH.[1]

4.1 Te Kawa Village

Tabonterikiai
Tebetinako
Aonteuma
Tekerau
Tetua
Bikenikiatau
Tebaki
Taramarawa
Teiangaku
Terere
Tannakonimatang
Tebitannatu
Tebonoieta
Terereua
Teabike
Aoraereke
Teriao
Teraereke
Terereua
Tebono
Teo
Tabonteora
Lang
Tetawanang
Tekamata
Kota
Tekaraieta
Totoia
Tengaongao
Tebekererororo
Tekawa
Teuaoti
Teonamau
Bakarawa
Tenenebo
Nabanaba
Tebue
Tebangannaomata
Koura
Anibuka
Nikureirei
Autetongo
Kabitawa
Tabiteuea
Tabomao

4.2 Taneang Village

Ruaruannamomoi
Baoti
Tenguinmate
Tenguingui
Karongoa
Etantekiba
Taunran
Taunoa
Temara
Kaitu
Tarataraia
Tekawa
Avainano
Birinai
Tekaurama
Maetoa
Temaing
Tekum
Abemama
Maeriua
Tebukinikai
Teoriba
Tekaitara
Taiki
Bauea
Maunga
Taunnamo
Taningamaura
Teruarababa
Teboiaine
Tewaka
Tebike
Tebero
Tanginimoa
Tangaroa
Namotawana
Teboniba
Etantekiba
Tabeteia
Tokanau
Kiramatua
Teatuantau
Teborantabakea
Banganimanai
Abeaki
Teremeang
Teitibong
Teremaiaki
Aontenameang
Teingunimatang
Aontenamaiaki
Teangarake
Bakarawa

4.3 Buariki and Temao Villages

Rabebe
Umantabuariki
Umanauriaria
Tanouea
Tenenebo
Teroata
Otitai
Etantekatai
Tewanimatang
Umanibarai
Tekaninganinga
Taberanibuariki
Buariki
Tekonikai
Auriaria
Ngeamakoro
Terere
Tekinerang
Tebongiroro
Anikanawa
Tabomatang
Teba
Atinibonota
Temarua
Tabakea
Teborau
Nanotawana
Bantabuki
Kabarano
Tengea
Abara
Umantebuke
Temanai
Bittanang
Kamboa

Mane
Kuma
Aontebike
Abaianti
Ruabitoa
Tawanauareke
Kotene
Anaororo
Kakawa
Buraitan
Teraereke
Beteri
Teabouru
Teborake
Temao
Nanonteo
Tewenei
Teba
Angeiniku
Raoraouareke
Terere
Raorao
Tebureniwi
Aurakeiia
Tabonteaba
Nantabuariki

1 Lands Commission Records, Onotoa, 1951.

appendix 5

LIST OF PRINCIPAL CLANS AND THEIR TOTEMS

5.0 LIST OF PRINCIPAL CLANS AND THEIR TOTEMS[1]

Totem	Clan
bêche-de-mer	Keaki
giant clam	Karongoa
	Te O
	Uma-ni-Kamauri
cockerel	Karongoa
	Taunnamo
	Aa-n-te-Kanawa
eel	Nukumauea
garfish	Nei Ati
giant-ray	Keaki
	Tebakabaka
	Kaburara
toddy	Teborauea
octopus	Nei Ati
porpoise	Ababou
	Maerua
	Tekokona
rat	Karongoa
	Te O
	Uma-ni-Kamauri
rock-cod	Ababou, Maerua
sandsnipe	Teba
	Tekirikiri
	Tabiang
	Namakaina
shark	Karongoa
	Taunnamo
	Aa-n-te-Kanawa
	Katanrake
	Karumaetoa
	Tebakabaka
sting-ray	Kaotirama
	Bangauma
	Buatara
	Kaourara

tern	Te O
	Uma-ni-Kamauri
trevally and allied carangoid fish	Teba
	Tekirikiri
	Tabiang
	Namakaina
tropic-birds	Keaki
	Tebakabaka
turtle	Teborauea

1 A. F. Grimble, 'The Migrations of a Pandanus People', p. 20.